California Regional Water Quality Control Board
Santa Ana Region

May 16, 2003

ITEM: 13

SUBJECT: Vessel Sewage Disposal Program for Newport Bay and Huntington Harbour

Introduction

The Harbors and Navigation Code (Chapter 6, Division 3) provides the statutory authority for the State Water Resources Control Board (State Board) in coordination with Regional Water Quality Control Boards (Regional Boards) to develop and adopt regional standards and require installation of sewage disposal facilities at vessel terminals. Vessel terminals are defined in the Harbors and Navigation Code as any private or shoreside installation on any waters of the state that provides mooring, docking, berthing, and other facilities for the use of vessels. The California Code of Regulations (Title 23, Chapters 20 and 20.1) contains standards establishing criteria for the design, construction, operation, and maintenance of pump-out stations and dump stations[1] (Sections 2815 through 2829), and specifies administrative procedures to be followed to provide a standard method of determining which vessel terminals shall be required to install and operate these facilities (Sections 2833 through 2835).

To determine the need for and require the implementation of pump-out stations and dump stations, the Regional Boards and State Board are required to do the following:

a. Based on consideration of a number of factors that are described below, the Regional Board determines a need for additional pump-out stations and dump stations within its Region, and prepares a Notice of Public Hearing to adopt the Pump-out Facility Need.

b. The Regional Board requests the State Board to require specified vessel terminals to install and operate the pump-out stations and dump stations where necessary to protect water quality. Once the State Board receives the Regional Board request, the State Board may conduct its own public hearing upon its own motion or at the request of any interested person. A public hearing is required under certain circumstances (see "c." below). After consideration of the Regional Board request and the record of any Regional Board or State Board hearing, the State Board may issue an order requiring vessel terminals to install and operate vessel

[1] A dump station is an upland waste reception facility specifically designed to receive waste from portable toilets carried on vessels or from floating restrooms in the water that are not connected to the land and are used solely by boaters. This does not include upland restroom facilities. (Federal Register Vol. 59 No. 47 pp. 11296)

waste pump-out stations and dump stations. The order would include an implementation schedule.

c. If the Regional Board determines that there is no public vessel terminal within an area in which additional pump-out stations and/or dump stations are needed, the State Board is required to hold a hearing to determine whether private vessel terminals should be designated to provide pump-out stations and dump stations. Based on the determinations made at that hearing, the State Board may issue an order requiring installation and operation of pump-out stations and dump stations to the private vessel terminal owner(s), as appropriate. Again, the order would include an appropriate time schedule.

This report summarizes staff's review of the adequacy of the vessel sewage discharge program in the Region and provides recommendations for improvement.

Background

According to the U.S. Environmental Protection Agency (EPA), the amount of bacterial pollution in a boater's untreated sewage discharge, from one weekend alone, is equal to that in treated sewage from 10,000 people during the same time period. Pathogens found in untreated sewage can cause extreme illness and even death when ingested by humans. Untreated sewage discharge from vessels can also suffocate animals and plants living in the aquatic environment. Shellfish beds are particularly sensitive to untreated sewage. (EPA Oceans and Coastal Protection: Vessel Sewage Discharge Program).

Congress found that sewage discharged to surface waters from recreational vessels, due to a lack of pump-out stations, is a substantial contributor to localized degradation of water quality. Consequently, Section 312 of the Clean Water Act mandates the use of marine sanitation devices (MSDs) on all vessels with installed toilets. There are three types of MSDs. Type I MSDs are required on vessels under 65 feet long. Type II MSDs are required on vessels 65 feet and longer. Type I and Type II MSDs disinfect and treat sewage to reduce bacteria and solids. Treated sewage from Type I and II MSDs may be discharged at any location except within designated no-discharge zones (NDZs). Type III MSDs are holding tanks that provide minimal or no sewage treatment and can be installed on vessels of any size. It is illegal to discharge the contents of Type III MSDs in any U.S. territorial water (within 3 nautical miles of shore). Type III MSDs may be emptied only at designated pump-out stations, or beyond 3 nautical miles from shore. (EPA Oceans and Coastal Protection: Vessel Sewage Discharge Program).

A no discharge zone (NDZ) is an area of a water body or an entire water body into which the discharge of sewage (whether treated or untreated) from all vessels is prohibited; NDZs are designed to give the states an additional tool to address water quality issues associated with sewage contamination. With the approval of EPA, states may designate a portion or all of their waters as NDZs, making all vessel sewage discharges illegal in those specified areas. States can establish NDZs if they can demonstrate to EPA that safe and adequate pump-out and dump stations are available. NDZ designations are issued as EPA regulations and may be found in the Code of Federal Regulations. NDZ

designations are used to prohibit vessel sewage discharges in order to protect environmentally sensitive areas, including shellfish beds, coral reefs, and fish spawning areas, or drinking water sources. . In the Santa Ana Region, both Huntington Harbour and Newport Bay are designated as NDZs. In 1988, the Regional Board adopted Resolution No. 88-89 and Orders No. 88-83, 88-84, 88-85 and 88-91. Resolution No. 88-89 approved a vessel pump-out program for Newport Bay and the other orders required certain vessel terminals to install vessel pump-out stations. These orders were neither waste discharge requirements nor enforcement actions, and no follow-up was done to determine compliance. Currently, these orders and the resolution are active and would need to be rescinded prior to any action by the State Board.

In 1994, both Huntington Harbour and Newport Bay were listed on the Clean Water Act Section 303(d) list of impaired waters due to bacterial contamination. Once a waterbody has been listed on the 303(d) list of impaired waters, states are then required to develop a Total Maximum Daily Load (TMDL) for the pollutant(s) causing impairment. In 1998, the Regional Board established the Newport Bay Fecal Coliform TMDL to address bacterial contamination in the Bay. The TMDL requires the City of Newport Beach and the County of Orange to conduct additional studies to assess the effectiveness of the vessel pump-out program. Work on development of the Huntington Harbour bacterial TMDL is expected to begin by Board staff in 2008.

The California 5-year Non Point Source Implementation Plan (1998-2003) states that the State Board and Regional Boards, in conjunction with the California Department of Boating and Waterways, will establish minimum standards defining an adequate number of pump-out stations, dump stations and restroom facilities. The State Board recently initiated this work effort. The Department of Boating and Waterways has already developed "Guidelines for Vessel Terminal Pump-out and Dump station Requirements", applicable to boats with Type III MSD's. These Guidelines were revised in 1998.

Beneficial Uses and Water Quality Objectives

The beneficial uses of Huntington Harbour as identified in the 1995 Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) are as follows:

- Body Contact Recreation **(REC1)**
- Non Body Contact Recreation **(REC2)**
- Commercial and Sport Fishing **(COMM)**
- Rare, Threatened or Endangered Species **(RARE)**
- Spawning, Reproduction and Development **(SPWN)**
- Marine Habitat **(MAR)**
- Wildlife Habitat **(WILD)**
- Navigation **(NAV)**

The beneficial uses of Newport Bay (Lower and Upper) specified in the 1995 Basin Plan are as follows:

- Body Contact Recreation **(REC1)**
- Non Body Contact Recreation **(REC2)**

- Commercial and Sport Fishing **(COMM)**
- Rare, Threatened or Endangered Species **(RARE)**
- Spawning, Reproduction and Development **(SPWN)**
- Marin Habitat **(MAR)**
- Shellfish Harvesting **(SHEL)**
- Wildlife Habitat **(WILD)**
- Navigation **(NAV)**

The Basin Plan specifies the following bacterial quality objectives for Enclosed Bays and Estuaries (Huntington Harbour and Newport Bay) in order to protect the designated beneficial uses:

> "...Water quality objectives for numbers of total and fecal coliform vary with the uses of the waters, as shown below:
>
> REC-1 Fecal coliform: log mean less than 200 organisms/100 mL based on five or more samples/30 day period, and not more than 10% of the samples exceed 400 organisms/100 mL for any 30-day period
>
> SHEL Fecal coliform: median concentration not more than 14 MPN (most probable number)/100 mL and not more than 10% of samples exceed 43 MPN/100 mL."

Fecal coliform are used as indicators of the presence of pathogens (bacteria, viruses, and parasites) that pose a public health risk.

Recommended Guidelines

Federal guidelines recommend, as a general rule, at least one pump-out station and dump station for every 300 to 600 boats over 16 feet length overall. This guideline is based on past surveys conducted by U.S. EPA. The California Department of Boating and Waterways has developed pump-out and dump station guidelines establishing a statewide target of one pump-out and dump station for every 300 boats with Type III marine sanitation devices (MSDs) (i.e., devices that retain sewage for shore-based disposal or discharge beyond the three mile offshore limit).

Neither set of guidelines has been adopted as regulations. Therefore, they are to be regarded as recommendations, rather than enforceable requirements.

Costs and Funding

The cost to install a new vessel waste pump-out station varies depending on the proximity of the vessel terminal to sewer lines, the cost to hook up to the sewer line and associated permit fees. The Department of Boating and Waterways estimates on average a cost of $20,000 to $40,000 to install a new pump-out station. Replacement of existing facilities also varies depending on the type of equipment needing replacement. The cost of

replacing and/or updating an existing pump-out station ranges between $3000 and $10,000. The cost of purchasing and installing a dump station is estimated to be between $2,000 and $10,000. The Clean Vessel Act provides federal funds in the form of grants for the installation of pump-out stations and dump stations. In California, these grants are administered through the Department of Boating and Waterways and are available through the year 2007. Grant funds are available to both the public and private sector. The grant will reimburse recipients for up to 75 percent of the installed cost of pump-out and dump stations.

Huntington Harbour and Newport Bay Vessel Waste Pump-out Surveys

In October 2002, the Orange County CoastKeeper performed a survey of vessel waste pump-out stations in Orange County (including those in Huntington Harbour, Newport Bay and Dana Point Harbor[2]). The CoastKeeper report is attached. The survey revealed major issues related to pump-out stations, in particular those located in Newport Bay and Huntington Harbour. These issues include inoperable vessel waste pump-out stations, limited access to the pump-out stations, improper use of the pump-out stations, limited number of pump-out stations, lack of public education on the proper use of these pump-out stations and high bacteria levels in the water in the vicinity of the pump-out stations.

The CoastKeeper report did not include information on dump stations because there are no dump stations in Newport Bay or Huntington Harbour.

The existing vessel waste pump-out stations in Newport Bay and Huntington Harbour are listed on Table 1 and Table 2 respectively. On March 19, 2003, Regional Board staff, accompanied by the Orange County CoastKeeper, surveyed several of the pump-out stations listed in the CoastKeeper report to determine their status. A summary of Regional Board staff findings is shown in Table 3. The findings are discussed below. Board staff's findings confirmed the inadequacies found by the Coast Keeper. Board staff compared the results of the Orange County CoastKeeper Vessel Waste survey and Board staff's survey to the recommended guidelines discussed above in evaluating the need for upgrades to the current vessel waste disposal programs.

Huntington Harbour:

In Huntington Harbour, there are eight privately owned vessel terminals. Three of these vessel terminals each have a pump-out station for public use. There is an additional pump-out station for public use at a lifeguard dock. There are no publicly owned vessel terminals in Huntington Harbour. Regional Board staff found that one out of the four public pump-out stations in Huntington Harbour was inoperable. Other problems identified included the use of duct tape to repair hoses, broken valves, lack of signs on how to operate the pump-out stations, lack of signs indicating that the harbour is a designated NDZ, lack of maps indicating the location of vessel waste pump-out stations, lack of current phone number for a contact person in case the pump-out station is inoperable, hoses at all the pump-out stations were laying on the slips (threatening

[2] Dana Point Harbor is under the jurisdiction of the San Diego Regional Board.

backwash or spillage of sewage containing water once the pump is turned off), and lack of meters on the pump-out stations to determine usage. There are currently no dump stations in Huntington Harbour.

The City of Huntington Beach staff estimates that approximately 3,000 boats are moored in Huntington Harbour. It is estimated that a large percentage of the 3,000 boats are greater than 16 feet and would require the use of a pump-out station.

Newport Bay:

There are 11 pump-out stations for public use in Newport Bay. Four of these pump-out stations are located on docks, six are located at privately owned vessel terminals, and one is located at a publicly owned vessel terminal. Charter boats in Newport Bay are kept at private docks or at privately owned vessel terminals that are not open for public use. The number and condition of pump-out stations servicing the MSDs in these charter boats is unknown at this time.

Regional Board staff surveyed 8 of the 11 pump-out stations. Problems observed included: limited or no access to several of these pump-out stations; lack of meters to determine usage;, and hoses at all the pump-out stations were laying on the slips, which as in Huntington Harbour, could result in backwash or spillage of sewage once the pump is turned off , denoting improper housekeeping practices.

There is currently a total of eight privately owned vessel terminals for public use in Newport Bay and one publicly owned vessel terminal for public use.

There are currently no dump stations in Newport Bay.

Newport Bay has approximately 10,000 recreational vessels. The majority of these are berthed on moorings and residential piers. A survey conducted in 2000 showed that only about 2,000 of the 10,000 vessels would be docked at a vessel terminal; the rest of the vessels were berthed at residential docks.

The City of Newport Beach estimates that 75% of these boats are larger than 16 feet and would require the use of a pump-out station. Of the remaining 25% of the vessels, 15% are smaller than 16 feet and are considered day use vessels, without a need for a dump station. The remaining 10% are also smaller than 16 feet and would have a portable toilet, thus requiring a dump station.

Staff Recommendation:

Recommendations for additional pump-out stations and dump stations must be based on site-specific considerations. Pump-out stations and/or dump stations can be required if they are found necessary to protect water quality. In assessing need, the following factors must be considered: the number of vessels with sewage retention devices requiring pump-out or dump stations; the location of vessel terminals in the affected area; the location and

capacity of existing pump-out stations; and receiving water characteristics, such as its beneficial uses and sensitivity. (The fact that both Newport Bay and Huntington Harbour are designated NDZ's speaks to the sensitivity of these waters and the significance of their beneficial uses.) The Department of Boating and Waterways' guidelines and federal guidelines should also be considered. Again, both sets of guidelines must be considered only as recommendations since they have not been adopted as regulations.

Based on the findings in the CoastKeeper pump-out station survey and the most recent Regional Board staff survey, it is apparent that adequate housekeeping of pump-out stations and education of facility users are major issues that need to be addressed in Newport Bay and Huntington Harbour. In addition, Board staff believes that there is a need for additional pump-out stations. Neither Huntington Harbour nor Newport Bay meet the federal and state guidelines for a minimum number of pump-out stations per numbers of vessels. Both Newport Bay and Huntington Harbour are designated NDZ's; however, this designation is contingent, in part, on the demonstration that adequate pump-out stations are available. Finally, as already noted, both water bodies are included on the Clean Water Act Section 303(d) list as the result of bacterial impairment of beneficial uses.

Staff has formulated the following preliminary recommendations for future Regional Board and State Board action to assure effective vessel waste programs in both Newport Bay and Huntington Harbour.

- Rescission of Resolution No. 88-89 and Orders No. 88-83, 88-84, 88-85, 88-91 by the Regional Board.
- Adoption of a Resolution by the Regional Board that would:

  - Find that a minimum of 7 additional pump-out stations is needed in Newport Bay and a minimum of 4 additional pump-out stations is needed in Huntington Harbour.

  - Request the State Board to require the following:

Newport Bay and Huntington Harbour shall adhere to the following standards:

A. Pump-out Stations:

1. Each vessel terminal with 50 or more boats shall have a pump-out station for public use in a accessible location, such as an end tie; and

2. For every 500 vessels in each harbor, there shall be at least 1 pump-out station for public use, regardless of size of the vessels. This pump-out station shall be easily accessible, such as at an end tie.

3. All pump-out stations shall be equipped with a meter for the purpose of measuring use of the pump-out station.

4. Where the owner/operator of a vessel terminal with 50 or more boats determines that a pump-out station cannot be installed, it shall contract with a private pumping service for all of its tenants' boats. The pump-out service shall provide for a minimum of one pump-out per month. The vessel terminal shall keep the contract current and shall make the contract available for inspection by the harbor administrator or the Regional Board.

5. To ensure compliance with Sections A (1) and (2) above, a minimum of 7 pump-out stations in Newport Bay and 4 pump-out stations in Huntington Harbour shall be installed as shown in Figure 1 and Table 3. These pump-out stations shall be installed per the implementation schedule in Section H below.

B. Dump Stations:

1. All vessel terminals with a capacity of 50 or more vessels shall have a dump station.

2. Dump stations should be located in conjunction with pump-out stations whenever possible.

3. Landside restroom facilities may be used as dump stations at vessel terminals with less than 50 vessels.

4. At other facilities such as boat launching ramps that cater to small craft (under 26 feet) a minimum of one dump station should be provided.

C. Plumbing Standards

Each pump-out station and dump station shall be constructed and plumbed such that pipe breakage, fitting failure, and related damage is minimized or eliminated. The County of Orange is hereby directed to, within 180 days of this Order, develop and implement appropriate plumbing and construction standards for pump-out stations within the harbors in the Santa Ana Region.

D. Education and Access

All public pump-out stations and dump stations shall be located preferably at an end tie so that they will be visible and easily accessible by vessel operators. Each station shall have signage readily visible to traveling vessels and use instructions in English and Spanish and in colorized graphics as to how to operate the station, how to minimize leakage, and how to report an inoperable station. Each vessel terminal operator shall provide a 24-hour phone number for pump-out station and dump station users to report station failures. Each pump-out station and dump station

location shall be marked to prevent parking of boat vessels other than for use of the pump-out station.

Each harbor administrator shall notify the owners of slips in front of residences that the harbor is an NDZ and that it is illegal to discharge the contents of their MSDs into the NDZ waters of the State (Newport Bay and Huntington Harbour). Along with the notification, each harbor administrator shall provide a map identifying the location of the pump-out stations and dump stations.

E. Monitoring and Maintenance

Each pump-out station and dump station shall be monitored at least three times per week during October 1 through May 31 and five times per week during June 1 through September 30th. When a pump-out station or dump station is inoperable, its owner shall make appropriate repairs within 24 hours of noticing the inoperability. Owners must maintain, and provide for inspection at any time, a maintenance and monitoring log at the site of each pump-out station and dump station. Owners must keep in stock spare parts such as hoses and other parts necessary to ensure that the pump-out station and dump station is inoperable for no more than 24 hours.

In addition, each harbor administrator shall inspect each pump-out station and dump station to ensure that the pump-out stations and dump stations are operational and that vessel terminal operators keep the necessary maintenance logs. These inspections shall be performed at least weekly in the winter months and at least bi-weekly in the summer months. In addition, these inspections shall be done to ensure the owner's compliance with the State Board order.

F. Live-aboard Vessels

Vessel terminals with live-aboard vessels shall require all live-aboard vessels that are incapable of moving under their own power to have all overboard discharge piping permanently sealed, unless such discharge piping is plumbed directly to appropriate on-shore waste facilities. Vessel terminal owners/operators shall inspect all live-aboard vessels monthly to ensure that all overboard discharge piping has been sealed. A log of these inspections shall be kept at the vessel terminal and made available to the Regional Board or harbor administrator staff.

Vessel terminal owners/operators with live-aboard vessels capable of moving under their own power shall notify the occupants of such vessels that it is illegal to discharge the contents of their holding tanks into the NDZ waters of the State (Newport Bay and Huntington Harbour) and require them to use a pump-station or to subscribe to a pump-out service.

G. Periodic Review of Effectiveness

Furthermore, the Regional Board shall oversee the compliance with the State Board order by the vessel terminal operators and the harbor administrator. Oversight by the Regional Board shall include at a minimum annual inspections, regular collection of samples and review of bacterial data collected from the vicinity of the pump-out stations. The Regional Board shall also review the effectiveness of the vessel waste pump-out program at a minimum of every 2 years to determine if revisions of the pump-out station standards are necessary to achieve protection of water quality.

H. Time Schedule:

Regional Board staff requests the State Board to require that the pump-out stations be installed and in operation within 8 months of the adoption of the State Board order. Regional Board staff recommends the following time schedule (subject to adjustment based on the State Board's adoption of the relevant order):

Task	***Compliance Date***
Vessel terminal operators required to install pump-out stations shall:	
• Indicate commitment to install the additional pump-out stations via letter to the Executive Officer of the Regional Board.	1/5/04
• Prepare and submit plans and specifications for pump-out installation to the Executive Officer of the Regional Board. If the Executive Officer does not approve of the pump-out location, or determines the plans and specifications are inadequate, the vessel terminal operator shall prepare new or supplemental plans and specifications in accordance with a schedule set by the Executive Officer of the Regional Board.	2/5/04
• Submit Plans and agreements for pump-out maintenance to the Executive Officer of the Regional Board	3/5/04
• Begin construction and installation of pump-out station.	6/5/04
• Complete construction and installation of pump-out station.	7/6/04
• Full compliance with State Board order; notify Executive Officer of the Regional Board.	8/6/04

Regional Board staff is recommending that public comments be received on these proposed changes to the vessel waste program. Formal consideration of Regional Board findings and recommendations to the State Board on the vessel waste program will be considered at a subsequent public hearing.

Table 1

Newport Bay Marinas, Anchorages, Piers, Pump-outs and Dump Stations

April 2003 Survey

Name	Address	Phone	Slips	Pump Out On Site - Yes / No	Pump Out / Marina Classification	Dump Station on site - yes/no
Port Calypso*#	2633 West Coast Hwy, 92663	(949) 645-6900	50	No	Private	No
Ardell Marina*#	2101 West Coast Hwy, 92663	(949) 642-5735	55	No	Private	No
Swales Yacht Anchorage*#	2888 Bayshore Dr, 92663	(949) 548-1501	57	No	Private	No
Bahia Corinthian Yacht Club*#	1601 Bayside Dr, 92625	(949) 644-9530	75	No	Private	No
Icon Yacht Charters	3400 Via Oporto, STE 104, 92663	Unknown	1	Yes	Private / Private	No
Larson's Shipyard	2703 W. Coast Hwy, 92663	(949) 650-2688	1	Yes	Private / Private	No
Nautical Museum	151 E. Coast Hwy, 92660	(949) 673-0300	1	Yes	Private / Private	No
Adventures at Sea	3101 W. Coast Hwy, STE 209, 92663	(949) 650-2412	3	Yes	Private / Private	No
Pavilion	111 & 111 1/2 Marine Ave, 92662	(949) 632-6363	5	Yes	Private / Private	No
Hornblower Yacht Charter	2431 W. Coast Hwy, 92663	(949) 646-0155	6	Yes	Private / Private	No
Orca Yacht Charters	2901 W. Coast Hwy, 92663	(949) 650-6722	6	Yes	Private / Private	No
Fun Zone Boat Co.	600 Edgewater Place, 92661	(949) 673-0240	10	Yes	Private / Private	No
Crow's Nest Marina	2801 W. Coast Highway, STE 260, 92663	(949) 574-7600	20	Yes	Private / Private	No
Lido Yacht Anchorage / Dry Storage (Bellport)#	201 Shipyard Way, STE 1, 92663	(949) 673-9330	265	Yes	Private / Private	No
American Legion (use 15th St. public pier)*#	215 15th Street, 92663	(949) 673-5070	50	No	Private / Public	No
Harbor Marina#	3333 W. Coast Hwy, 92663	Unknown	50	Yes	Private / Public	No
Lido Village Marina#	3400 Via Oporto, STE 104, 92663	(949) 675-8662	85	Yes	Private / Public	No
Balboa Bay Club#	1221 West Coast Hwy, 92663	(949) 654-5000	140	Yes	Private / Public	No
Balboa Yacht Basin#	829 Harbor Island Dr, 92660	(949) 673-1761	171	Yes	Private / Public	No
Bayside Village (De Anza)#	300 East Coast Hwy, 92660	(949) 673-1331	225	Yes	Private / Public	No
Newport Dune Resort Marina & Launch#	101 N. Bayside Dr, 92660	(949) 729-1100	232	Yes (2)	Private / Public	No
Bayside Marina (Bellport)*(2 pump-out staions proposed)#	1137 Bayside Dr, 92625	(949) 644-9730	560	Yes	Private / Public	No
15th St. Public Pier	15th St.	N/A	0	Yes	Public	No
Fernando St. Public Pier	Fernando St.	N/A	0	Yes	Public	No
Harbor Patrol	1901 Bayside Dr, 92625	(949) 723-1002	0	Yes (2)	Public	No
Washington St. Public Pier	Balboa Pavilion - Fun Zone	N/A	0	Yes	Public	No

*** proposed pump-out station**
#Proposed dump station
Public means available for public use
Private means not available for public use
None/Private means no pump-out station, private marina
Private/Private means private pump-out station, private marina
Private/Public means private pump-out station, public marina
Public/not a marina means public pump-out station at a public dock

Table 2
Huntington Harbour Marinas and Pump-outs and Dump Stations

Name	Address	Phone	Slips	Pump Out On Site - Yes / No	Pump-out / Marina Classification
Davenport Marina*#	4052 Davenport Drive, Huntington Beach 92649	(714) 840-6285	65	No	none/Private
Coral Cay Marina*#	Technology Drive Suite 104, Irvine 92618	unknown	to be determined	No	none/Private
Tennis Club Estates*#	2888 Bayshore Dr, 92663	unknown	to be determined	No	none/Private
Saebrook*#		unknown	to be determined	No	
Portofino Marina#	1601 Bayside Dr, 92625	unknown	48	No	none/Private
Peters Landing Marina#	16400 Pacific Coast Highway Suite 108, Huntington Beach 92649	(714) 840-1387	325	Yes	Public/Private
Huntington Marina#	20062 Lawson, Huntington Beach 92646	(714) 840-5545	to be determined	Yes	Public/Private
Sunset Aquatic Marina#	2901 A Edinger Ave Huntington Beach 92649	(714) 846-0179	262	Yes	Public/Private
Lifeguard Dock#	unknown	Unknown	to be determined	Yes	Public/not a marina

*** proposed pump-out stations**
#proposed dump station
Public means available for public use
Private means not available for public use
None/Private means no pump-out station, private marina
Private/Private means private pump-out station, private marina
Private/Public means private pump-out station, public marina
Public/not a marina means public pump-out station at a public dock

Table 3
Regional Board Staff Survey Results

Huntington Harbour Pump-out Stations

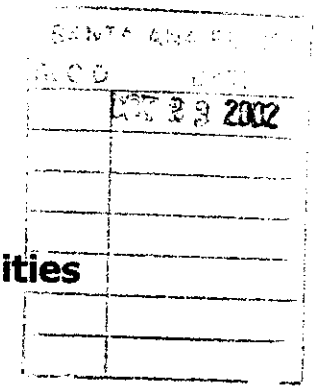
	Public Restroom	Pump-out Sign	Pump-out Station Operable	Operational Instructions
Marina		yes		
Peters Landing (1)	yes	no	yes (duct tape on hose)	no
Huntington Harbour Patrol Access (Sunset Aquatic) (2)	yes	no	no	no
Lifeguard Dock	yes	yes	no (pump not hooked up)	yes
Weatherly Bay - Huntington Marina				
Huntington Marina **-exposed wires** **-nozzle broken** **-valve broken off** **-weathered**	yes	yes	no (pump not hooked up)	yes (weathered)

Newport Bay Pump-out Stations

	Public Restroom	Pump-out Sign	Pump-out Station Operable	Operational Instructions
Blue Water Grill (no access)	yes	yes		yes
Dunes 2a	yes	yes	yes	yes
if pump fails, call (949) 644-3034 map	yes	yes	yes	no
Dunes 2b goose shape accessible				
Danaza Marina sign is in bad shape	no	yes	yes	yes
Balboa Bay Club	no	yes	yes	no
Arches Marina	no	yes	yes	yes
Lido Village	yes	yes	yes	no
Lido Peninsula	yes	yes	yes	no

ORANGE COUNTY COASTKEEPER

441 Old Newport Blvd. Suite 103 Newport Beach, California 92663
Office: (949) 723-5424 Fax: (949) 675-7091 Email: coastkeeper1@earthlink.net
http://www.coastkeeper.org



October 4, 2002

RE: Status report of vessel waste pump-out facilities

To Interested Parties:

The purpose of this survey of vessel waste pump-out facilities located throughout Orange County harbors is not to fix blame, but rather, encourage fixing the problems identified in this report. This report was compiled solely by the Orange County Coastkeeper, a 501(c)(3) non-profit corporation, whose mission is to "protect and preserve the marine habitats of Orange County through education, restoration, and enforcement".

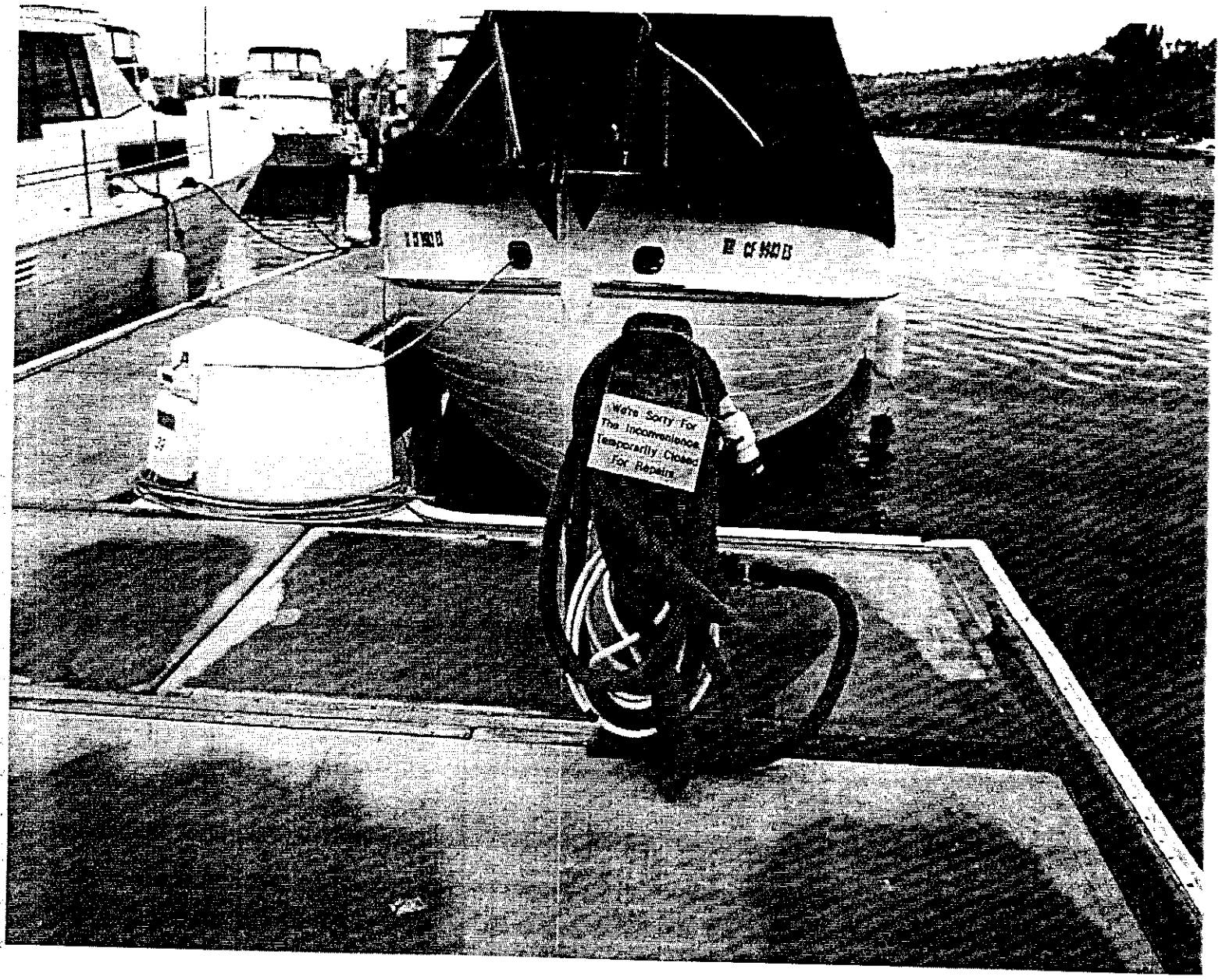
This intent of this survey was to merely answer questions of our own and others regarding pump-out stations. There was no advance knowledge or pre-conceived conclusions. As the survey progressed, more questions were actually raised than were answered. The issues raised in this survey, in almost all cases, lead to an overall lack of guiding management standards. The responsibility for developing and adopting standards regulating vessel waste pump-out stations rests with the Regional Water Quality Control Boards. We have had ongoing dialogue with the Santa Ana Regional Water Quality Control Board relative to the data collected in this survey. We are encouraged by staff's response and have offered to assist in developing regulatory standards for vessel waste pump-out facilities.

As we proactively want to develop programs that produce measurable results for clean water, it is easy to conclude vessel waste pump-out facilities must be conveniently located, operational, easy to operate, and accessible in order to motivate the general boating public to utilize them. We cannot expect the boating public "do the right thing" if the proper sewage disposal facilities are inconvenient, inoperable, difficult to operate, and inaccessible. It is our hope this report will stimulate actions that will result in better management and maintenance of all countywide pump-out facilities.

Cordially,

Garry Brown
Executive Director

Harbor Pumpout Survey
Orange County Coastkeeper



Orange County Coastkeeper
OC Pumpout Survey

Table of contents

Executive Summary.....3-11

Data Section.....12-13

Newport Harbor 14-32

Dana Point.....33-38

Huntington Harbor.....39-44

EXECUTIVE SUMMARY

INTRODUCTION

Orange County hosts three harbors: Huntington Harbour, Newport Harbor, and Dana Point Harbor. Contained in theses harbors are an estimated 17,000 boats, predominantly pleasure boats. With this high number of boats concentrated in relatively small areas, the potential for pollution from improper or illegal disposal of waste from waste holding tanks is great. All three Orange County harbors are Federally designated as No-Discharge harbors and pumpout facilities are necessary to properly dispose of boater-generated sewage. The potential for serious problems arise when vessel sewage is not disposed of in the proper manner. These problems include, life-threatening diseases, contamination of shellfish, and decreased oxygen levels that stress or kill marine life. Sewage dumping also contributes to a less attractive destination for tourism and boaters. The 1992 Clean Vessel Act identifies vessel sewage discharge as "A substantial contributor to localized degradation of water quality in the United States." There are over 30 pumpout stations throughout Orange County harbors officially listed by municipal and state regulatory agencies.

OBJECTIVE

The purpose of this survey is to assure pumpout stations in Orange County harbors actually exist as listed, are operational, sufficiently distributed, accessible, visible, well maintained, and pose no health hazard to the public and the surrounding environment. From June 2002 to September 16, 2002, the Orange County Coastkeeper has completed surveys in Newport Harbor, Huntington Harbour, and Dana Point Harbor monitoring and testing the above criteria.

METHODOLOGY

Scope of Project: The project surveyed both public and private pumpout stations listed by public agencies in Newport, Huntington and Dana Point Harbors during the summer boating season. This time period was chosen as it is when the greatest demand exists for pumpout station use.

Project Design: The project was designed to survey pumpout stations on multiple dates throughout the summer boating season to determine their level of operability and accessibility for the boating population to safely dispose of their sewage. Bacterial testing was used to determine water quality around each pumpout station in order to detect possible leakage or faulty use of the pumpout station. The project also takes into consideration that some pumpout stations are for private use and are not accessible by the public.

PROCEDURES

The survey procedure went as follows:

1. Using standard sample collection methods a 100ml bacteria sample was collected from the area immediately adjacent to the pumpout station.
2. The visual appearance of the pumpout station was assessed and photos were taken.
3. The station was operated using a five-gallon bucket filled with water to make sure The pump was operational, and that suction was sufficient.
4. A survey form for recording temperature, date, time, and accessibility was completed. (A copy of the Survey form is in the data section)
5. The bacteria samples were processed at the CoastKeeper lab in Newport Beach and readings were taken for Total Coliform and *E. Coli* bacteria.

BACTERIAL TESTING

Water samples were taken at each pumpout station available to the public in order to determine water quality. AB 411 bacteriological standards for Total Coliform, and the EPA recreational water quality standard for *E. coli* were applied as the criteria for determining water quality in a pumpout station area. Total Coliform is a measure of the overall bacteria level in the sample while *E.coli* is an indicator of fecal material in the sample. Details of these standards are presented at the beginning of the data section of this report.

Coastkeeper Findings on Bacteria Data

Over eighty Bacteria samples were collected and tested for Total Coliform and *E. coli* bacteria to produce the data for this project. The results of the tests were used as an indicator of potential pumpout station problems and to help us target specific pumpouts that could be discharging waste due to inappropriate use, leaky hoses, or pipes. Our data is useable for only the single sample standards for both Total Coliform and E.coli since we were unable to collect samples often enough to create a thirty-day running average. However, sites with multiple readings over thirty-day running average standards should be studied in more detail.

Newport Harbor: For total coliform, The Lido Village Marina test site measured above the single sample standard of AB411. A boater had just finished using the facility and mentioned that he may have spilled sewage in the water. For *E.coli*, all stations except the American legion Yacht Club exceeded the single sample standard during our 7/29/02 survey. On our 8/12/02 survey of Newport Dunes, De Anza Marina, Newport Bay Club and the American Legion Yacht Club exceeded the *E. coli* standard. On 9/16/02, all stations except for the Newport Bay Cub Marina and the Harbor Patrol exceeded the

standard. Most stations also exceeded the EPA geometric mean standard for *E.coli* on multiple dates

Huntington Harbour: For Total Coliform, no stations exceeded the single sample standard. For *E.coli* the Lifeguard Dock and Huntington Harbour Marina stations exceeded the single sample standard on our 8/12/2002 sampling.

Dana Point Harbor: All pumpout station samples were within standards for Total Coliform and *E.coli*.

Classification of Pumpout Ownership

There are currently two classifications of pumpout ownership and usage.

1. Private- purchased with private funds, for use only by owner and owner's clients.
2. Public- state or municipal funded, for public use.

The classifications for pumpout station ownership should be expanded in order to take into account privately owned pumpout stations that may or may not be available for use by the public. Utilizing only the two classifications, the current "list of record" of pumpout stations conveys a false appearance there are more pumpout stations available to the public than do exist in reality. This is due to the high number of private pumpout stations that are not available for public use.

A third classification for pumpout station ownership and use is imperative in order to show a true number of pumpout stations that are actually available to the general boating public.

Suggested new classification:

1. **Public**--Publicly owned, public use
2. **Private/Public**--Privately owned, public use
3. **Private/Private**--Privately owned, private use only

Huntington Harbor Survey Results

Public/Public	Operating Status	% sample dates operational	Bacteria results
1.Lifeguard Dock	inoperable 7/3 and 7/29/02	50%	TC/passed, EC/failed 08/12

Private/Public

1.Peter's Landing	inoperable 8/6/02	75%	TC/passed, EC/passed
2.Huntington Marina	inoperable 7/29, 9/4/02	50%	TC/passed, EC/failed 08/12
3.Sunset Aquatic Marina	under construction	0	

***Huntington Harbor Pumpout Statistics**

3 out of 4 pumpout stations were operable at least once this summer.
All 3 of these pumpout stations were accessible and could be used by the public when they were operational.
The average percentage of operational and accessible pumpout stations in Huntington Harbor during sampling events was 44%.

Dana Point Harbor Survey Results

Public/Public

1.Harbor Patrol	operable	100%	TC/passed, EC/passed
2.Guest Dock	operable	100%	TC/passed/passed

Private/Public

1.Side Tie "A" dock.....inoperable 8/6,8/20,9/10/02.....25%..... TC/passed,EC/passed
2.End of "F" dock.....operable.....100%..... TC/passed,EC/passed
3.Texaco Gas Station.....permanently removed.....

***Dana Point Pumpout Station Statistics**

3 out of 4 pumpout stations were operable every sampling event. Dock "A" side tie was only operable once.
All 4 had good public access. The average percent of all pumpout stations in Dana Point Harbor that were accessible and operational this summer was 81.25%.

Newport Harbor Survey Results

Public	Operating Status	% sample dates operable	Bacteria results
1.Harbor Patrol (see note)	inoperable 9/16/02	75%	TC/passed, EC/failed
2a.Newport Dunes Marina	inoperable 7/1/02	75%	TC/passed, EC/failed
2b.Newport Dunes Launch	operable	100%	TC/passed, EC/failed
3.Bahia Corinthian	inoperable all summer	0%	TC/passed, EC/failed
4.Balboa Yacht Basin	inoperable 9/16/02	75%	TC/passed, EC/failed
5.Balboa Bay Club	operable	100%	TC/passed, EC/failed
6.Arches Marina	operable	100%	TC/passed, EC/failed
7.American Legion	inoperable 7/1/02	75%	TC/passed, EC/failed
8.Balboa Fun Zone	inoperable all summer	0%	TC/passed, EC/failed
9.Fernando Street	operable	100%	TC/passed, EC/failed

Private/Public

1.De Anza Marina	inoperable 7/29/02	75%	TC/passed, EC/failed
2.Newport Dunes Marina (#2)	.does not exist	no results	
3.Lido Village	inoperable, no access 7/29 and 8/12	50%	TC/failed, EC/failed

Private/Private (No Public Access)

1.Pilgrim Yacht Charters	now called Larsen's Shipyard
2.Hornblower yacht Charters	sewage line access at dock
3.Crow's Nest Marina	
4.Orca Yacht Charters	
5.Lancer's Shipyard	now called Adventures at Sea
6.Icon Yacht Charters	removed permanently

7.Lido Sailing Club..... removed permanently .....
8.Blue Water Grill Marina.....
9.Newport Landing.....removed permanently.....
10.Balboa Pavilion.....removed permanently.....
11.Lido Peninsula Marina.....

Note:
The harbor patrol has two pumpout stations on one dock. We counted it as one station because, based on observations, only one boat can moor at the dock at a time. Due to normal boat length and a strong current at this location, it is unlikely that two boats will use both pumpout stations at the same time. Conversely, The Dunes Marina must be counted twice because it has two pumpout stations located at separate docks, the launch ramp and the marina.

***Pumpout Station Statistics**

18 of the 23 total pumpout stations listed by the city of Newport Beach actually exist. (22% of listed pumpout stations do not exist).

Out of these 18, 12 are available for use to be general boating public.

Out of these 12, the average percentage of pumpout stations operable and available to the public this summer was 69%.

Conclusions

Overall this survey identified four problems relative to management of pumpout stations:
1) **Reasonable repair times.** Our survey showed stations are inoperable for weeks and even months waiting for repairs.
2) **A lack of enforcement of docking time limits in Newport Harbor.** There are frequently boats moored at stations and left unattended, thus, blocking access for pumpout use.
3) **Inadequate number of pump out facilities available to the general boating public.** Comparing the "list of record" of pumpout stations to those that actually exist, there are fewer operating pumpout stations-- this is especially prevalent in Newport Harbor.
4) **Lack of adequate pumpout operational instructions for the general boater.**
5) **General absence of regulatory standards.** Standards relative to the number of pumpout facilities per number of boats in the harbors, inspections and operations, repair times, and guidelines for private ownership installations and management, do not currently exist. The Regional Water Quality Control Boards have the responsibility to regulate vessel waste pumpout facilities and should do so.

Newport Harbor

The stations in Newport Harbor have problems caused from a lack of public and private maintenance and enforcement. Problems include the illegal mooring of boats at pumpout docks to inoperable pumpout stations. Stations need to be inspected and maintained on a regular schedule that insures they are working without leaks. Better signage should be designed to identify the location of the stations and how to properly use them. Twelve public pumpout stations working an average of 69% of the time is not adequate for the number of boats permanently moored in the harbor.

Recommendations: Maintenance and repairs of pumpout stations in Newport harbor is an issue that should immediately be addressed. An employee of the city/county should be trained to do repairs on pumpout station equipment, and replacement parts should be kept on-site for quick replacement. Currently parts are ordered on an as needed basis causing automatic delays in repairs. A non-local independent repairman preforms repairs to pumpout facilities. This procedure of repairing inoperable pumpout stations automatically causes long delays in timely repairs.

Enforcement of public and private/public pumpout stations needs to be improved in Newport Harbor. Ordinances or a Regional Board Order needs to be adopted authorizing the Harbor Patrol to enforce illegal mooring of boats at pumpout docks. If a boat is moored at a pumpout station for hours at a time, or in the case of Lido Village Marina for days at a time, the boat should be at least cited or impounded.

The City of Newport Beach currently has ordinances regulating the local Charter Boat industry permanently moored and conducting routine business in the Harbor. The number of large charter boats doing business in Newport harbor has dramatically

increased in recent years. Contained in the ordinance are requirements stipulating the use of dye tablets in waste holding tanks of these vessels, as well as, requirements for sewage disposal facilities. From our observations, the City's ordinance is neither be followed or enforced. We recommend a review of the ordinance for relevance and educational meetings with charter boat owners. Once this is completed, the City should ensure enforcement of the ordinance.

Huntington Harbour

Pumpout stations in Huntington Harbor are run down by comparison to other harbors, have inadequate instructions for boater use, and their locations are not well marked. On 7/29/02 there was not one operational pumpout stations in Huntington Harbor. When construction of the fourth station (Sunset Aquatic Marina) is completed, it is our opinion that the number of pumpout stations compared to the number of boats permanently moored in the Harbour is still inadequate. Bacteria counts around these stations warrant further testing to ensure there are no leaks.

Recommendations: Huntington Harbor should implement an overall management program and improve a repair and maintenance program to ensure that boaters have a place to safely dispose of their vessel waste. Our recommendation is the same as for Newport Harbor, stock repair parts and have a trained employee able to repair pumpout stations quickly. Most problems with public pumpout stations could be solved if parts and trained staff were available for quick repairs.

Dana Point Harbor

Dana Point Harbor's major problem is the maintenance of the pumpout station located at the side tie on Dock A, which was not operable on August 6th, August 20th, and September 10th. The pumpout station at the gas dock has been permanently removed and should be taken off the list of pumpout stations.

Recommendations: The pumpout station at the side tie dock "A" should to be promptly repaired. A review should be done to determine if another public pumpout station should be installed to replace the station removed at the gas dock. Dana Point's pumpout stations are maintained in good operating condition.

Evaluation of the three Harbors:

If we were asked to apply an actual grade to each harbor for accessible and operational pumpout stations based on this survey, using A as highest and F as lowest, we would assign the following letter grades:

Huntington Harbour	Grade F
Newport Harbor	Grade D+
Dana Point Harbor	Grade B

Data Section

AB 411 Bacteriological Standards

(a) The minimum protective bacteriological standards for waters adjacent to public beaches and public water-contact sports areas shall be as follows:

(1) Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed:

(A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or

(B) 10,000 total coliform bacteria per 100 milliliters; or

(C) 400 fecal coliform bacteria per 100 milliliters; or

(D) 104 enterococcus bacteria per 100 milliliters.

(2) Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:

(A) 1,000 total coliform bacteria per 100 milliliters; or

(B) 200 fecal coliform bacteria per 100 milliliters; or

(C) 35 enterococcus bacteria per 100 milliliters.

EPA WATER QUALITY STANDARD FOR *E.COLI*

Escherichia coli (*E. coli)* is the most reliable indicator of fecal bacterial contamination of surface waters in the U.S. according to water quality standards set by the EPA. Although *E. coli* bacteria are not typically pathogenic in and of themselves, an extensive epidemiological study (Dufour 1984) demonstrated that *E. coli* concentrations are the best predictor of swimming-associated gastrointestinal illness. EPA bacterial water quality standards are thus based on a threshold concentration of *E. coli* in water above which the health risk from waterborne illness is unacceptably high.

The EPA recommended recreational water quality standard for *E. coli* is based on two criteria: 1) a geometric mean of 126 organisms/100 ml based on several samples collected during dry weather conditions or 2) 235 organisms/100 ml for any single water sample (EPA 1986). The geometric mean is calculated by the equation: geometric mean of $y = n^{th}$ root of $y_1 * y_2 * y_3 ... y_n$. If either criterion is exceeded, the site is not in compliance with water quality standards and not recommended for swimming. The gastrointestinal illnesses per 1000 swimmers (Dufour 1984).

System Used for bacteria testing

The Idexx system was used for all of the bacteria testing conducted during the study. The Idexx system uses the MPN per 100ml, or "most probable number of bacterial organisms per 100ml of water." The test used was Idexx's Colilert 18 hour and 24 hour. which tests for total coliform and e-coli. All bacterial tests for this study were done in the Orange County CoastKeeper's laboratory.

Form used to Survey Pumpout stations

Orange County Coastkeeper Pumpout Water Sample Form

Sampled by:_____

City, Harbor (site #)_____

Relative Location of pumpout station (streets, landmarks)_____

_____

Site GPS Coordinates (latitude and longitude)_____

Date_____ Time of Day_____ Tide: low high ebb

Water Temperature_____ Air Temperature_____ Water Depth_____

Wind intensity_____

Distances at which samples were taken from pumpout station_____

Posted notice information (who maintains pump?)_____

_____

Is pump operational?_____Is pump metered?_____Is pump accessible by public?_____

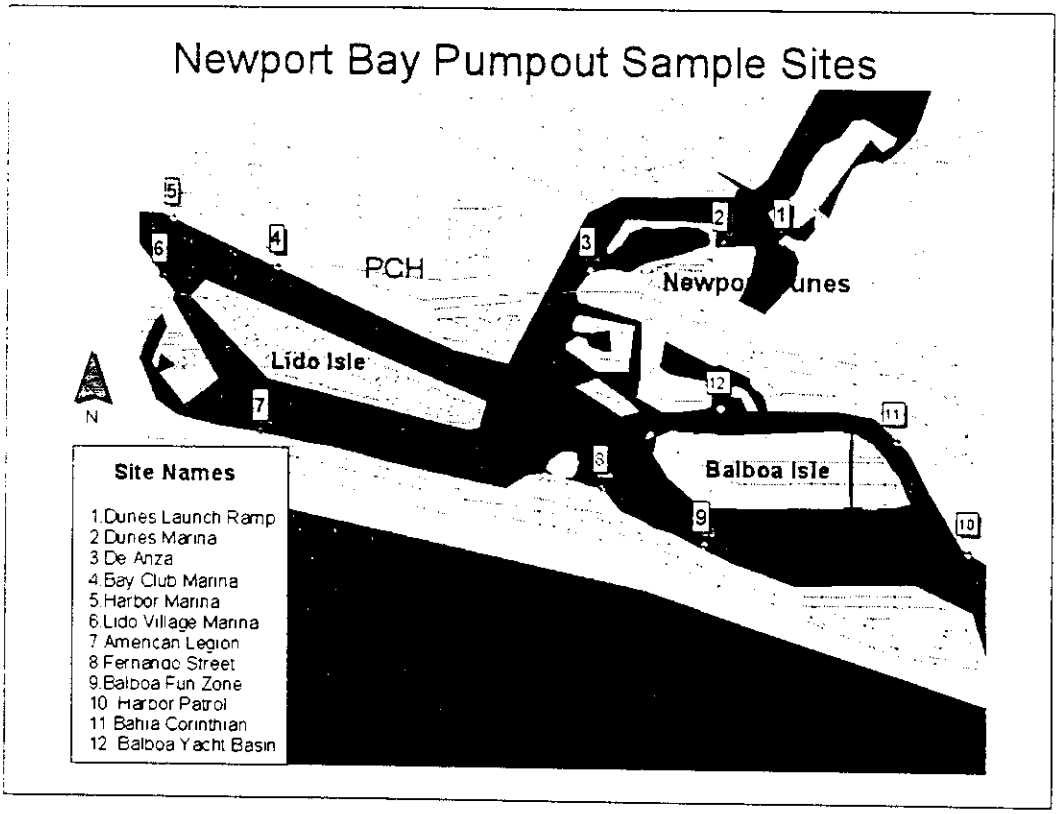
Observations, or comments_____

_____

_____

Newport Harbor Sampling

Map of study area, and sites being sampled:



Dunes Launch Ramp Pumpout

The Newport Dunes launch ramp pumpout vessel. Photo taken July 1, 2002

Data:

Date	Time	e-coli	Total Coliform	operational	visible	instructions
7/1/02	8:15	no result	no result	yes	yes	yes
7/29/02	10:15	738	1904	yes	yes	yes
8/12/02	9:25	52	547	yes	yes	yes
9/16/02	10:38	546	3130	yes	yes	yes

Problems: On July 29th, a boat for over 3 hours, from 10:15 to 1:15, was moored at the pumpout dock, making it impossible for other boats to use the pumpout. This boat was not using the pumpout, and appeared to be a customer of the restaurant on shore.

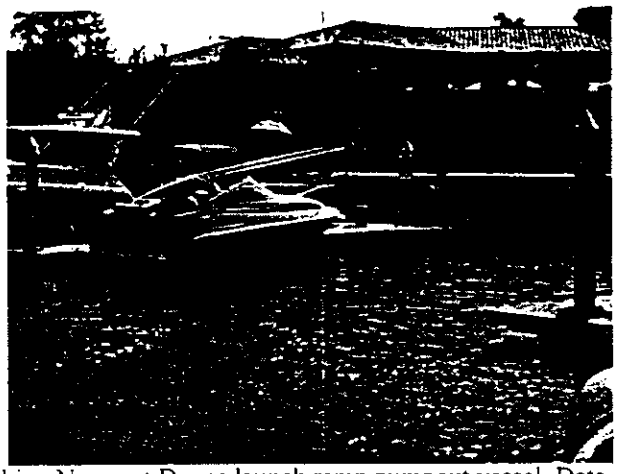


Photo of boat blocking Newport Dunes launch ramp pumpout vessel. Date- July 29, 2002. Time- 10:15 Boat CF = 4760 PV. Make: Bayliner.

7/29/02. Boat still blocking pumpout at 1:15pm.

Bacteria test results met AB-411 standards. *E.coli* above EPA standard on two dates

Recommendations for site: Stricter patrol and enforcement of rules regarding the pumpout need to be put into play.

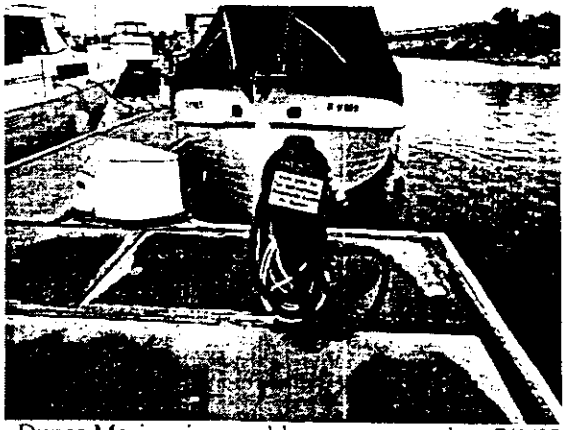
Dunes Marina

Dunes Marina. Photo taken 7/1/02.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	8:25	no result	no result	no	no	no	fair
7/29/02	10:25	504	1246	yes	yes	no	fair
8/12/02	9:30	305	907	yes	yes	no	fair
9/16/02	10:42	554	3076	yes	yes	no	fair

Problems: The Dunes Marina pumpout station does not have any directions on how to operate it, nor any visible signs that mark its location in the Marina. The pumpout station was not operable on 7/1/02, as indicated by the yellow sign posted on the pump.

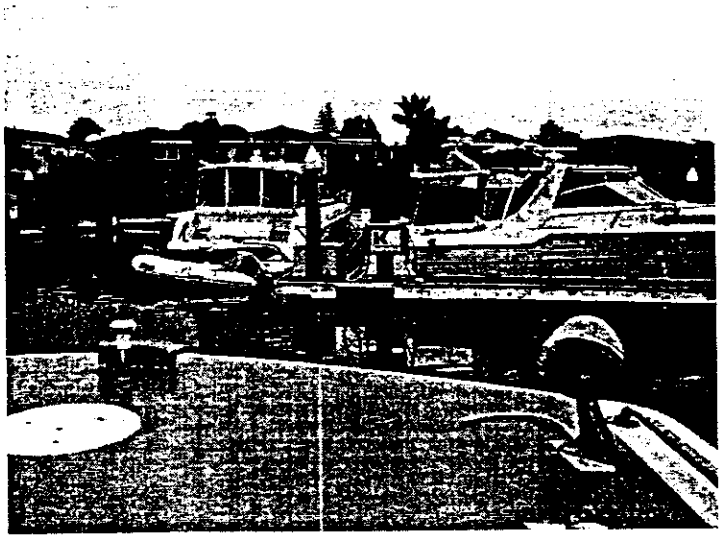


Dunes Marina, inoperable pumpout station. 7/1/02

Bacteria test Total Coliform results indicate that this site meets single sample standards. *E.Coli* exceed EPA standards 7/29, 8/12, and 9/16/02.

Recommendations: A new marker for this pumpout station, along with instructions on how to operate it are necessary to ensure that boaters can use the pumpout station with ease. Frequent maintenance of the pumpout station should also be implemented to ensure that the pumpout station is operable, especially at times so near the fourth of July in the middle of summer when the harbor sees heavier traffic.

De Anza



DATA:

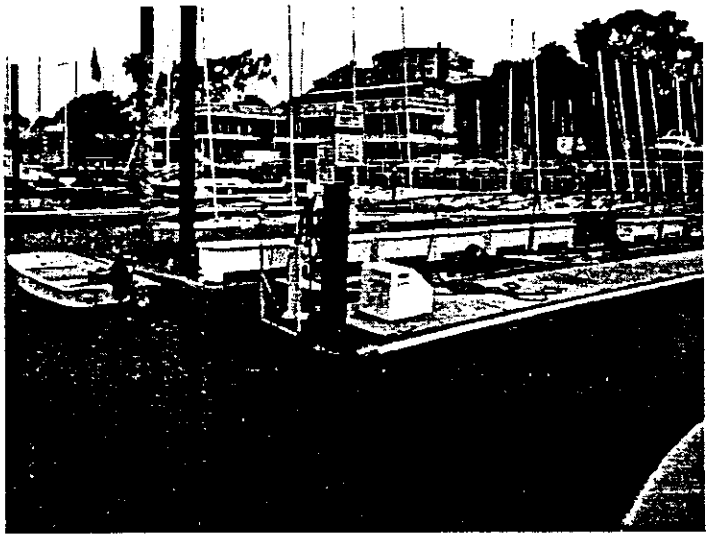
Date	Time	E.coli	Total Coliform	operational	visible	instructions	access
7/1/02	8:15	no result	no result	yes	no	yes	fair
7/29/02	10:15	700	1287	no	no	yes	fair
8/12/02	9:25	355	2187	yes	no	yes	fair
9/16/02	10:50	354	1354	yes	yes	yes	fair

Problems: The De Anza pumpout station has no visible signs marking its location. The pumpout station had no suction on July 29th, deeming it useless to boaters.

Bacteria test: The samples passed the single day Total Coliform standardE.coli exceeded the EPA standard on all dates tested.

Recommendations: none at this time

Bay Club Marina



DATA:

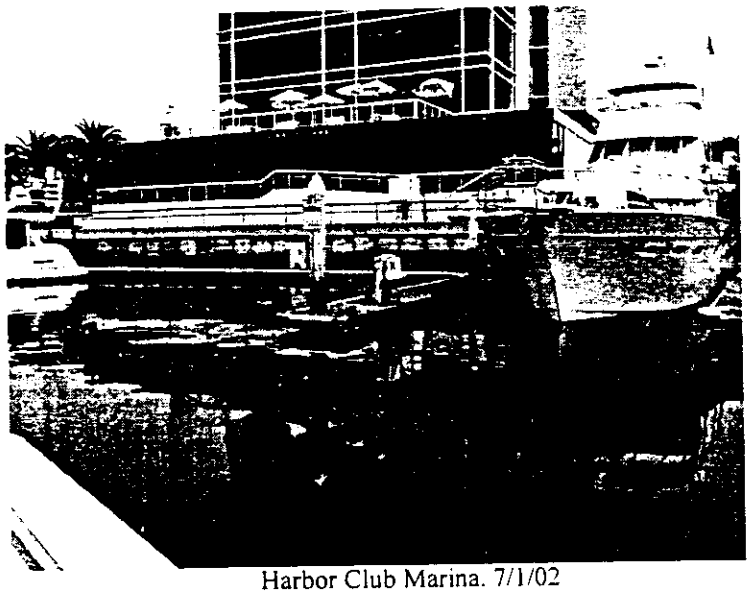
Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	8:15	no result	no result	yes	yes	yes	fair
7/29/02	10:15	272	384	yes	yes	yes	fair
8/12/02	9:25	243	907	yes	yes	yes	fair
9/16/02	11:10	243	547	yes	yes	yes	fair

Problems: This sample site does not have any problems currently.

Bacteria tests The samples passed the single day Total Coliform standard. E.coli exceeded the EPA standard on all dates tested.

Recommendations: no recommendations at this time.

Harbor Club Marina



Harbor Club Marina. 7/1/02

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	9:35	no result	no result	yes	yes	yes	fair
7/29/02	11:35	504	1250	yes	yes	yes	fair
8/12/02	10:00	173	1211	yes	yes	yes	fair
9/16/02	11:20	368	801	yes	yes	yes	fair

Problems: This pumpout station does not have any problems currently, and is in good operating condition.

Bacteria tests The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard on all dates tested.

Recommendations: none

Lido Village Marina

Lido Village Marina. Photo taken 7/1/02 9:45 am.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	9:45	no result	no result	yes	yes	yes	fair
7/29/02	11:20	723	723	yes	yes	yes	no
8/12/02	10:08			no	yes	yes	no
9/16/02	12:40	5,492	11,199	yes	yes	yes	fair

Problems: Lido Village Marina pumpout station was inoperable on August 12th, and the pumpout station dock was being used as a mooring for a sailboat. On July 29th, the pumpout station was operable, but was blocked by a 32' Chris Craft that remained there for the day.

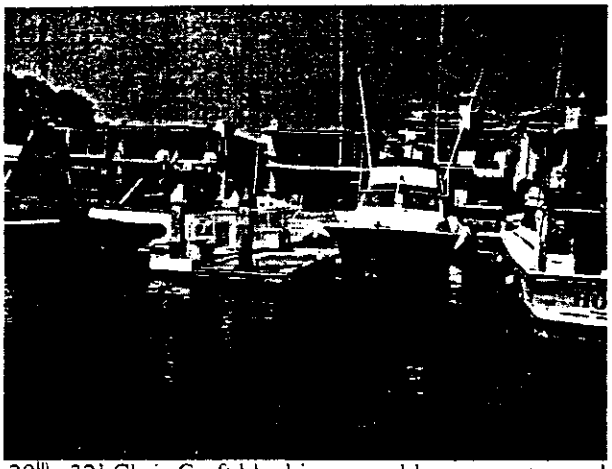


Photo taken July 29th. 32' Chris Craft blocking operable pumpout vessel. Lido Village Marina

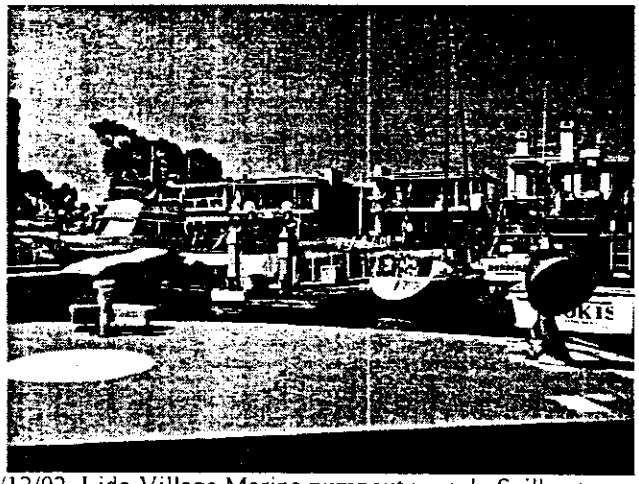


Photo taken 8/12/02. Lido Village Marina pumpout vessel. Sailboat moored blocked pumpout.

Bacteria test results indicate that bacteria counts in the water on 9/16/02 were higher than anywhere in the harbor at any given time. The sampling was done after a boater had used the pumpout station; the boater told the sampler that he had spilled some of the sewage into the water as he was taking the nozzle out of the boat. Total coliform counts were measured at 11,199, exceeding the single sample standard while e-coli counts were measured at 5,492.

Recommendations: The major problem of this pumpout station is access. This pumpout station seems to double as a mooring.

American Legion Yacht Club

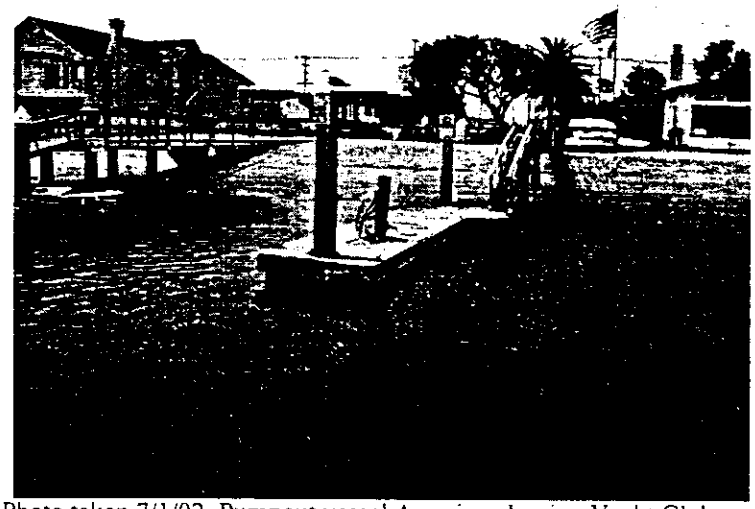


Photo taken 7/1/02. Pumpout vessel American Legion Yacht Club.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	10:05	no result	no result	no	yes	no	fair
7/29/02	11:35	195	884	yes	yes	no	fair
8/12/02	10:20	388	933	yes	yes	no	fair
9/16/02	12:00	512	2142	yes	yes	no	fair

Problems: This pumpout station has no directions on how to operate it. The pumpout station's nozzle when tested on 7/1/02, leaked waste on to the dock due to improper usage by the last user.

Bacteria test The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard on two dates

.

Recommendations: Most importantly, this pumpout station needs instructions on how to properly operate it; this could have been the reason why on 7/1/02 waste leaked out of the tip when the hose was lifted for testing.

Fernando Street

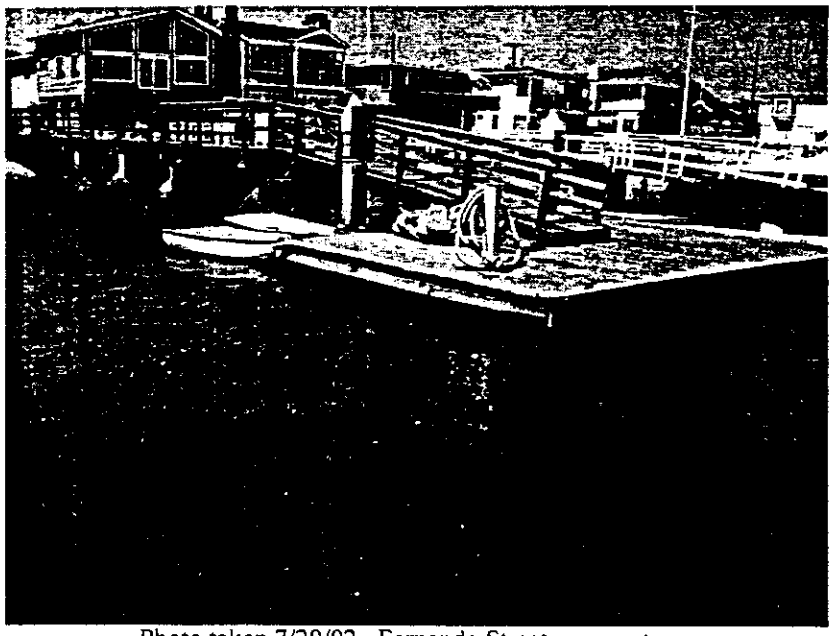


Photo taken 7/29/02. Fernando Street pumpout.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	10:25	no result	no result	yes	yes	yes	fair
7/29/02	11:40	723	1067	yes	yes	yes	fair
8/12/02	10:35	21.1	676	yes	yes	yes	fair
9/16/02	12:05	285	1334	yes	yes	yes	fair

Problems: This pumpout station has no directions on how to operate it. On 7/29/02 water surrounding the pumpout station contained brown foam (shown on next page). On 9/16/02 the pumpout stations dock was littered with trash, someone had put their cigarette out on the end of the pumpout station's nozzle, and had used the top of the pumpout station to cut their fishing bait. On the same date (9/16/02) the total coliform bacteria count around the pumpout station was at 1,334.

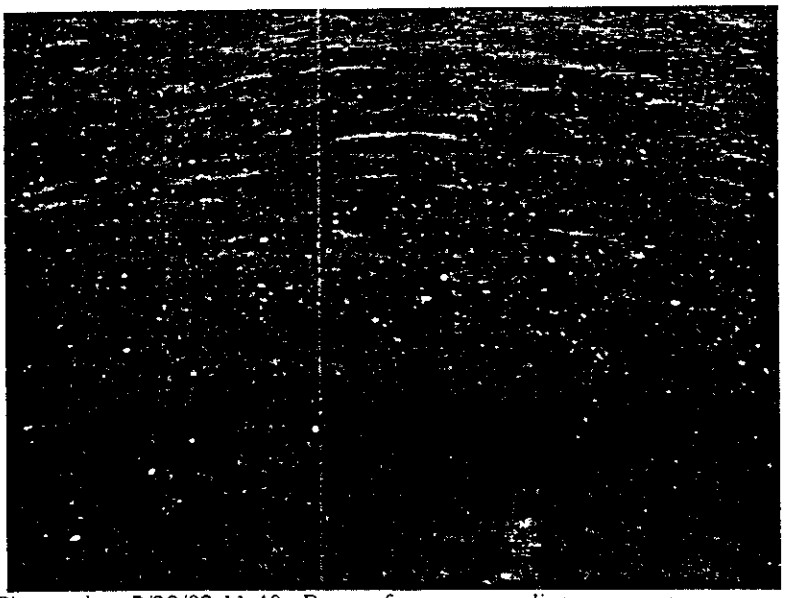


Photo taken 7/29/02 11:40. Brown foam surrounding pumpout.

Bacteria test The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard on two dates

Recommendations: The high level of bacteria found on 7/29/02 could also be from misuse of the pumpout station due to the lack of instructions on how to properly operate it. Better patrol of the site needs to take place to insure that the pumpout station's dock is not being misused.

Balboa Fun Zone

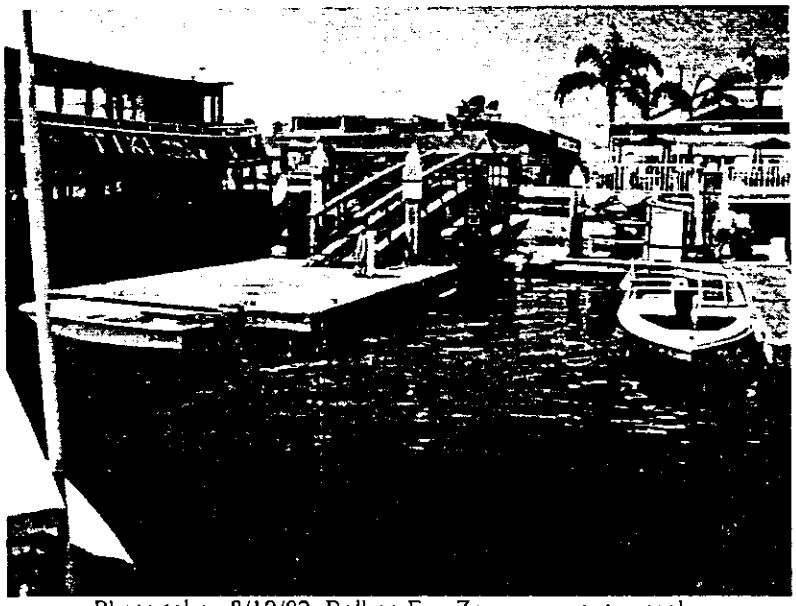


Photo taken 8/19/02. Balboa Fun Zone pumpout vessel.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible instructions	access
7/1/02	10:40	no result	no result	yes	yes	yes	poor
7/29/02	12:00	759	748	no	no	no	poor
8/12/02		no result	no result	no	no	no	poor
9/16/02	12:00	no result	no result	no	no	no	poor

Problems: The Balboa Fun Zone was not operable on July 29th, and August 12th. The pumpout had plastic wrapped around it, and the hose had been removed. When the pumpout station was operable, access was bad due to the slips narrow width. As seen in the photo above, the pumpout station dock is narrow, and boats tied up around the dock created a difficult entry for anything larger than a dinghy.

Photo taken 7/29/02. Balboa Fun Zone pumpout inoperable.

Bacteria tests The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard.

Recommendations: Most importantly, this site needs to be operational again.

Harbor Patrol

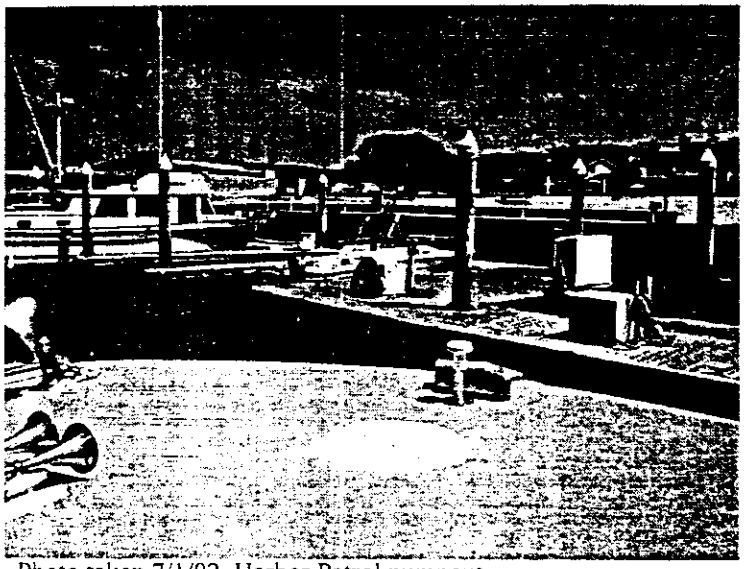
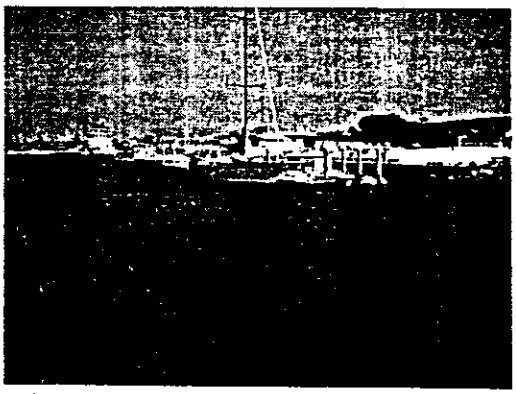


Photo taken 7/1/02. Harbor Patrol pumpout.

DATA:

Date	Time	e.coli	Total Coliform	operational	visible	instructions	access
7/1/02	11:00	no result	no result	yes	yes	yes	fair
7/29/02	12:10	256	842	yes	yes	yes	fair
8/12/02	10:54	31	262	yes	yes	yes	blocked
9/16/02	12:25	63	439	no	yes	yes	fair

Problems: On 8/12/02, there was a boat moored on the Harbor Patrol pumpout station dock for over an hour, causing the pumpout station to be inaccessible. On 9/11/02, and 9/16/02 one of the pumpouts was inoperable, and had a black trash bag over it. The other pumpout station had a broken clamp on the nozzle on 9/16/02, frustrating one boater who tried for over an hour to pump out his tank.



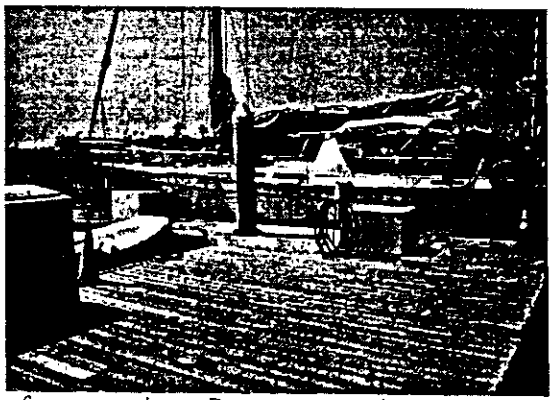
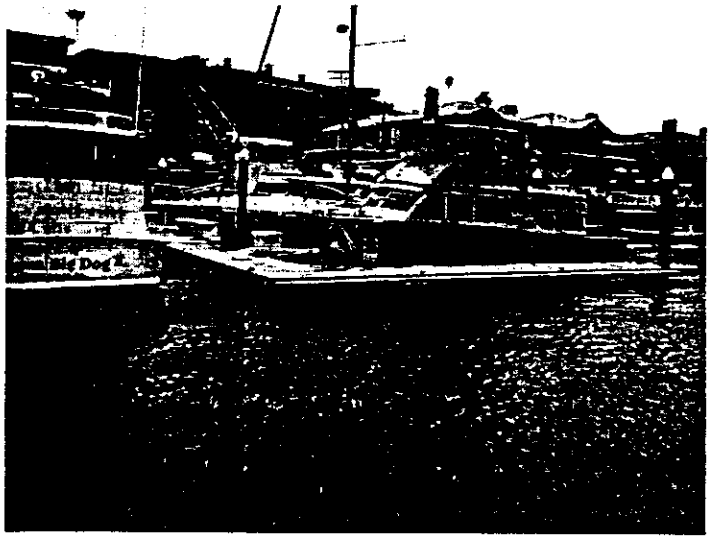


Photo: boat blocking harbor patrol pumpout station for over an hour. Boat was not using pumpout.8/12/02

Bacteria tests The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard on one date.

Recommendations: Thorough patrol of the pumpout station is necessary in order to ensure that they are not misused as a place to temporarily moor a boat. Parts for the pumpout station should be kept in back stock so that if something does go wrong, the pumpout station can be fixed promptly.

Bahia Corinthian



DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/1/02	11:10	no result	no result	no	yes	no	fair
7/29/02	12:25	359	785	no	yes	no	fair
8/12/02	11:00	no result	no result	no	yes	no	fair
9/16/02	12:50	no result	no result	no	yes	no	fair

Problems: The Bahia Corinthian Pumpout station did not work on all four sampling dates. The pumpout station is in poor condition.

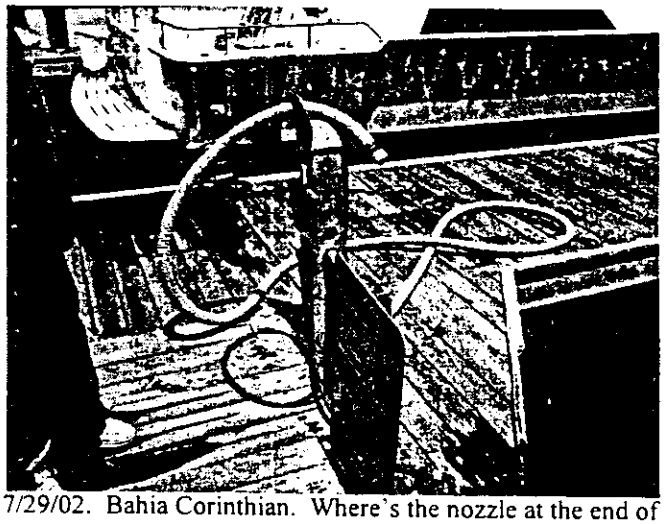


Photo taken 7/29/02. Bahia Corinthian. Where's the nozzle at the end of the hose?

Bacteria: The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard.

Recommendations: This pumpout station has not worked all summer long, and needs to be fixed promptly.

Balboa Yacht Basin

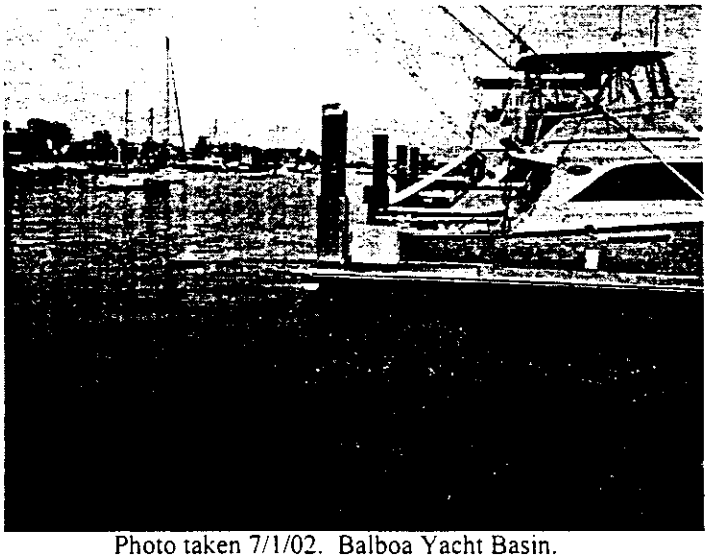


Photo taken 7/1/02. Balboa Yacht Basin.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible instructions	access
7/1/02	11:00	no result	no result	yes	yes yes	fair
7/29/02	12:10	256	842	yes	yes yes	fair
8/12/02	10:54	31	262	yes	yes yes	blocked
9/16/02	12:25	231	605	no	yes yes	fair

Problem: The pumpout station is not visibly marked for usage.

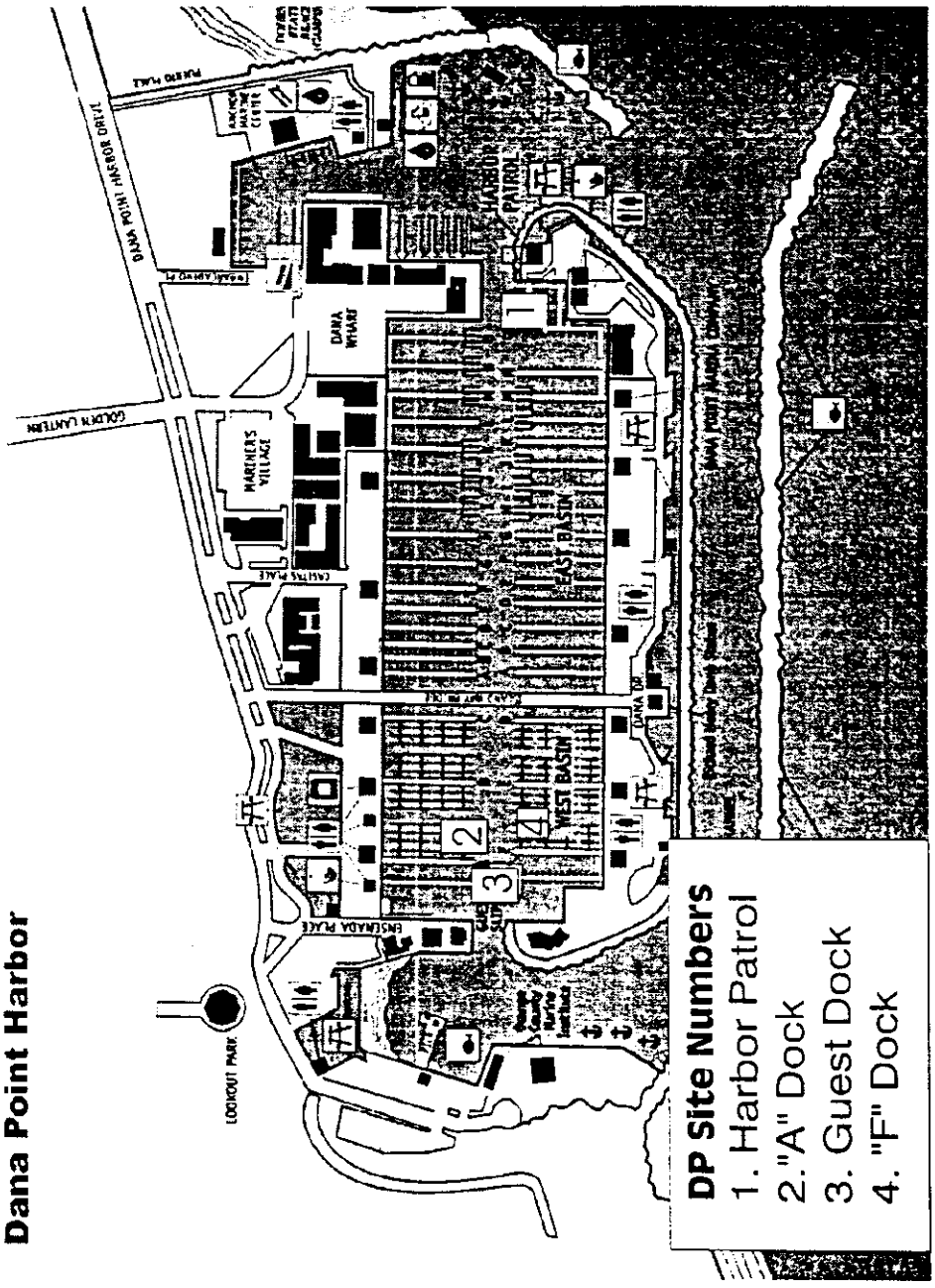
Bacteria tests The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard on two dates

.

Recommendations: This site needs to have a better marker so that boaters can see it from the water.

Dana Point Harbor Pumpout Station Sampling

Map of sites being sampled



Harbor Patrol Emergency Dock

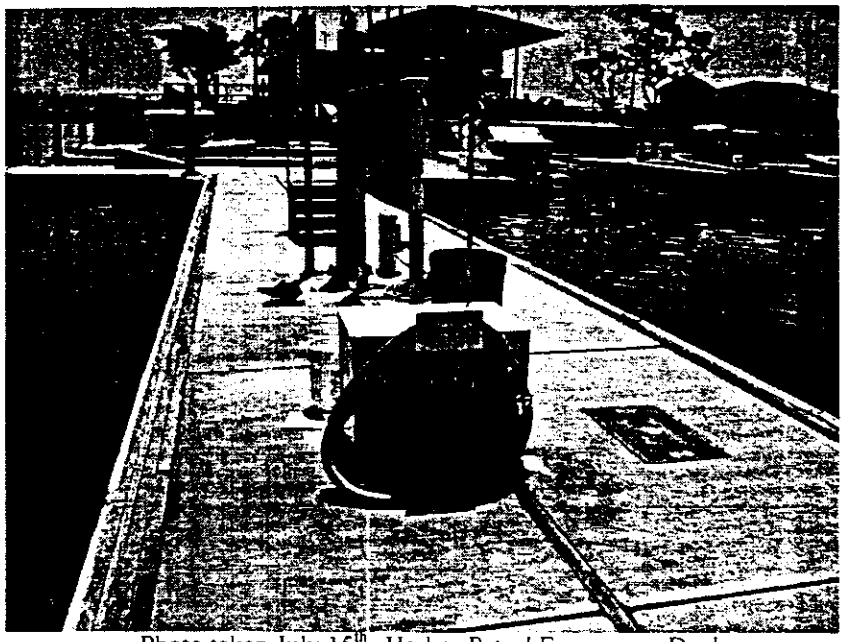


Photo taken July 15th. Harbor Patrol Emergency Dock.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/15/02	11:45	41	72 yes	yes	no		fair
8/6/02	3:15	41	41 yes	yes	no		fair
8/20/02	10:10	120	581 yes	yes	no		fair
9/10/02	3:20	20	86 yes	yes	no		fair

Problems: The only problem at this pumpout station is that there are no directions on how to operate it.

Bacteria results indicate that this site is within standards.

Recommendations: This site needs directions on how to operate the pumpout station.

Site 2 Dana Point Harbor

"A" Dock Side Tie

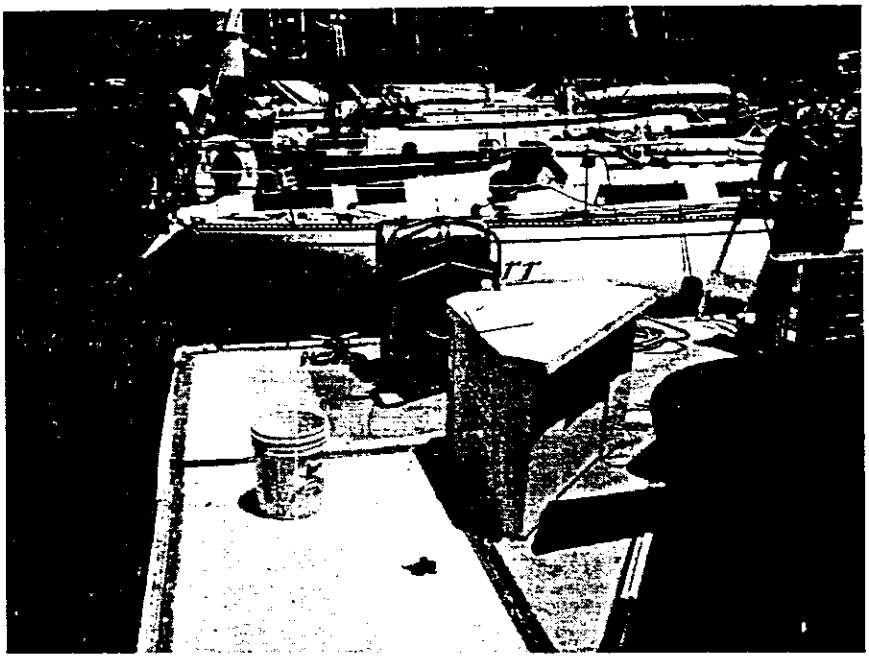


Photo taken 8/22/02. "A" dock side tie.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/15/02	11:55	31	122 yes	no	yes		fair
8/6/02	3:00	20	10 no	no	yes		fair
8/20/02	9:37	10	332 no	no	yes		fair
9/10/02	2:50	10	20 no	no	yes		fair

Problems: Besides being poorly marked, and hard to access, this pumpout station was not operational August 6th, and August 20th. On August 6th there was a dinghy moored at the inoperable pump.

Bacteria results indicate that this site meets standards.

Recommendations: This pumpout needs to be made operational again. This pumpout station didn't work ¾ of the summer.

Harbor Department Guest Docks

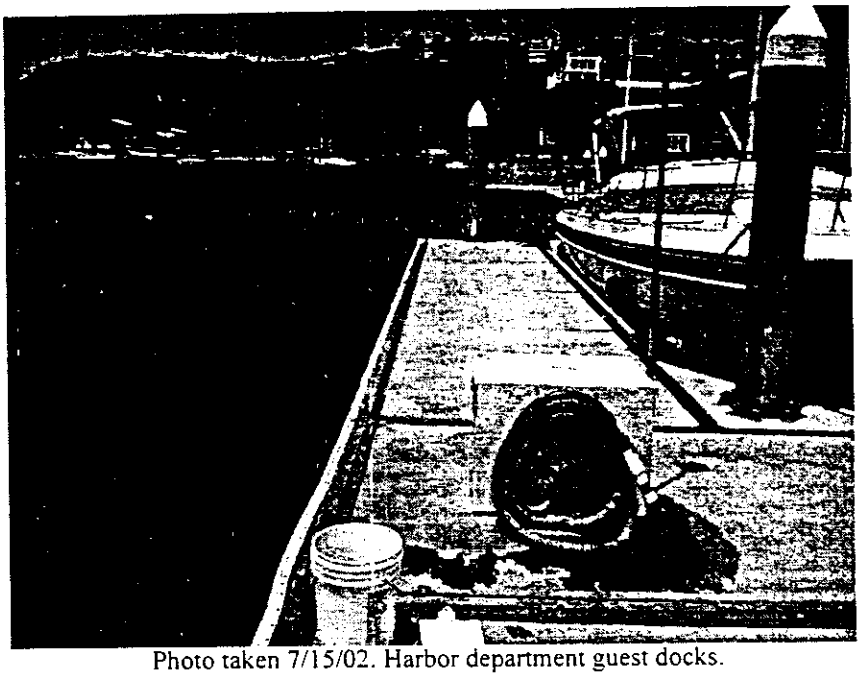


Photo taken 7/15/02. Harbor department guest docks.

DATA:

Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/15/02	11:45	20	97 yes	yes	yes		fair
8/6/02	2:35	20	121 yes	yes	yes		fair
8/20/02	9:45	62	408 yes	yes	yes		fair
9/10/02	2:57	52 <100	yes	yes	yes		fair

Problems: none at this time 9/10/02

Bacteria results indicate that the bacteria results meet standards.

Recommendations: none at this time.

"F" Dock

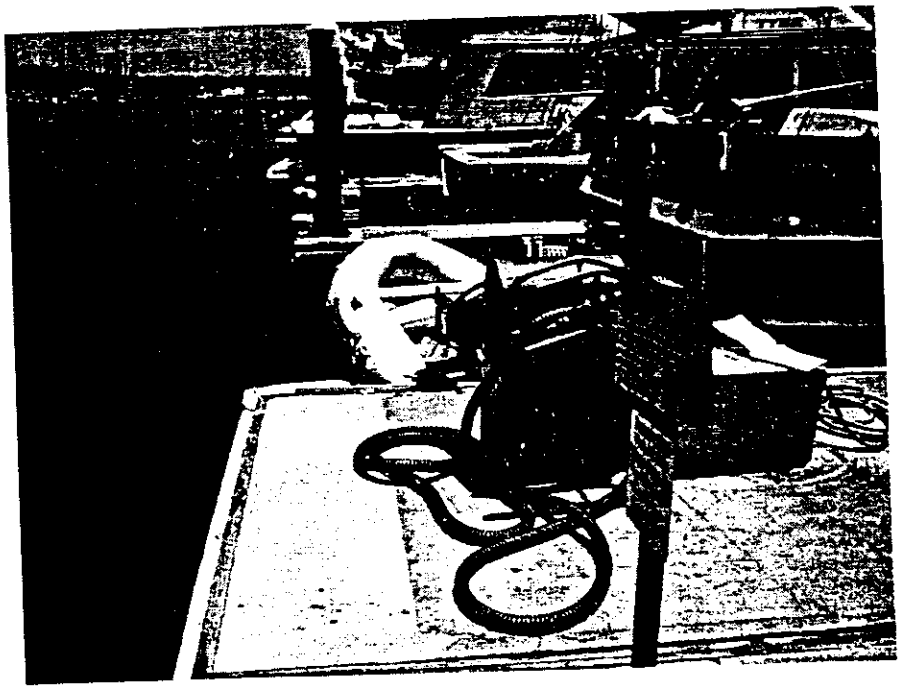


Photo Taken 7/15/02. Dana Point Harbor End of "F" Dock pumpout station.

DATA:

Date	Time	e.coli	Enterococci	Coliform	operational	visible	instructions	access
7/15/02	11:45	20	97	yes	yes	yes		fair
8/6/02	2:35	20	121	yes	yes	yes		fair
8/20/02	9:45	62	408	yes	yes	yes		fair
9/10/02	2:57	52 <100		yes	yes	yes		fair

Problems: none at this time

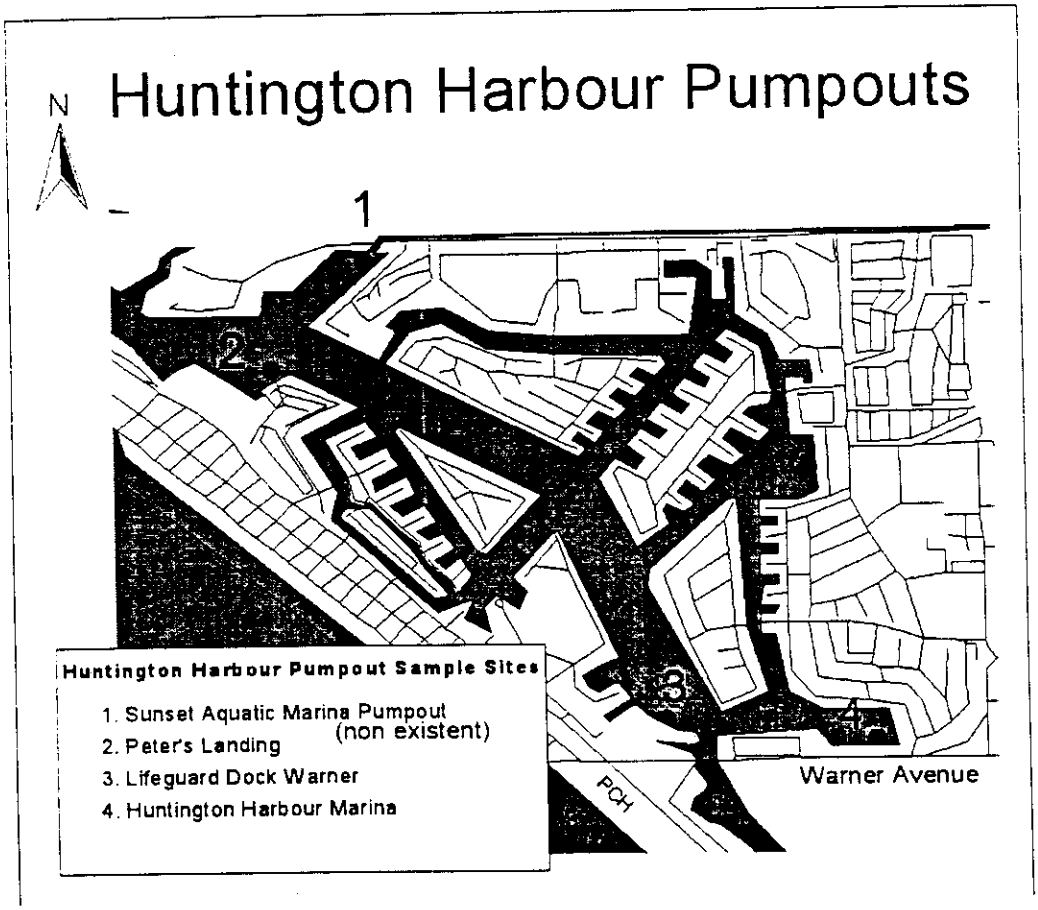
Bacteria results show this site is within standards

Recommendations: none

Texaco Gas Dock

This pumpout station is inoperable, and looks as though it has been for many years. This pumpout station should be taken off the list of pumpout stations.

Huntington Harbour



Site 1 Huntington Harbor

Sunset Aquatic Marina Pumpout

This Pumpout, and marina are under construction, and have been for a few months.

Site2 Huntington Harbor

Peter's Landing

DATA:

Date	Time	e-coli	total Coliform	operational	visible	instructions	access
7/15/02	8:30	no result	no result	yes	no	no	fair
8/6/02	5:00	146	809	no	no	no	fair
8/20/02	12:47	20	275	yes	no	no	fair
9/10/02	8:30	63	1354	yes	no	no	fair

Problems: The Peter's Landing pumpout station is in very poor condition. Besides having no directions on how to operate the vessel properly, and no visible markers to mark its location, this pumpout station was not operating on July 29th.

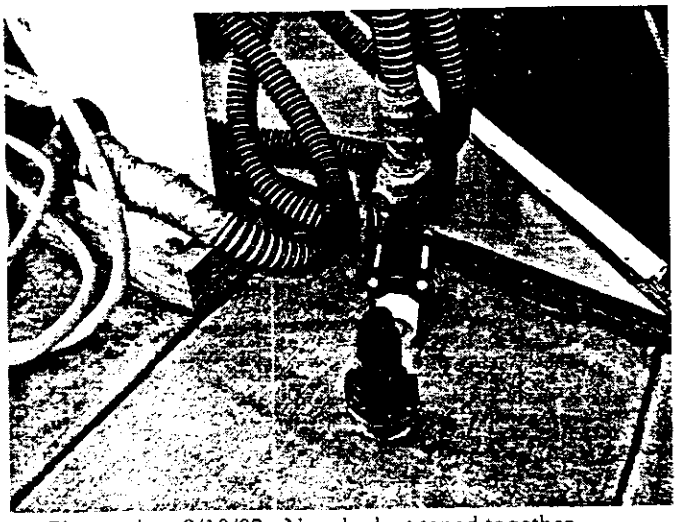


Photo taken 9/10/02. Nozzle duct taped together.

Bacteria tests indicate that this site meets standards.

Recommendations: directions on how to properly operate the pumpout station, a visible sign to mark the pumpout station's location, repairs to the duct taped nozzle, and a new on and off switch.

Lifeguard Dock

Photo taken 7/3/02. Lifeguard dock Huntngton Harbour.

DATA:

Date	Time	e.coli	Total Coliform	operational	visible instructions	access
7/3/02	9:00	no result	no result	no	yes	yes	fair
7/29/02	5:20	120	2851	no	yes	no	fair
8/12/02	1:03	281	488	yes	yes	yes	fair
9/4/02	8:47	119	1067	yes	yes	yes	fair

Problems: The Lifeguard Dock Pumpout station had an out of order sign on it July 3rd, and July 29th. On August 12th. the pumpout station was finally working again.

Bacteria test The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard on one date.

Recommendations: This pumpout station needs to be better maintained.

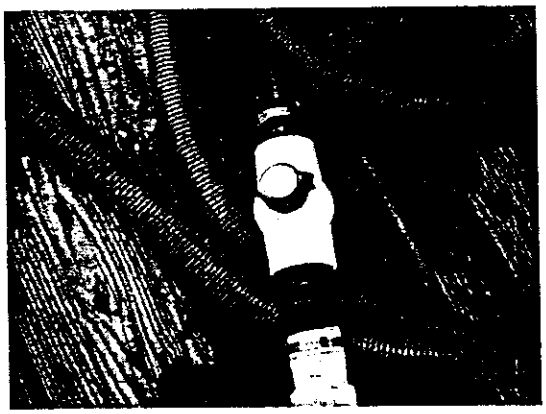
Huntington Harbour Marina

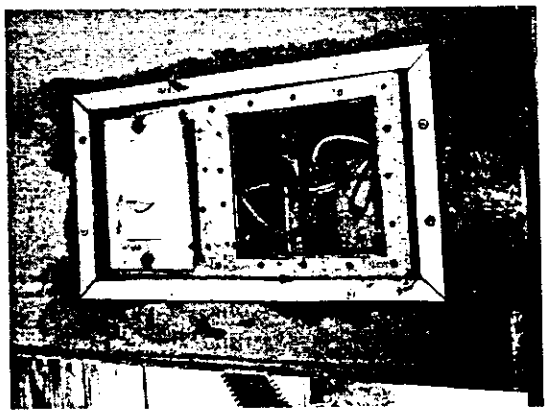
Photo taken July 3rd. Huntington Harbour Marina.

DATA:

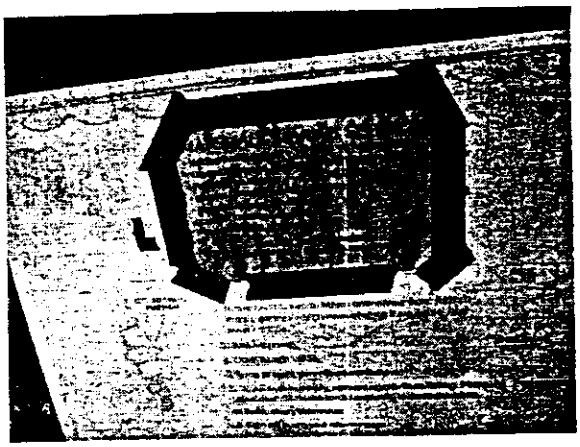
Date	Time	e-coli	Total Coliform	operational	visible	instructions	access
7/3/02	9:10	no result	no result	yes	yes	poor	fair
7/29/02	6:45	29.4	799	no	yes	poor	fair
8/12/02	1:10	317	472	yes	yes	poor	fair
9/4/02	8:55	86	538	no	yes	poor	fair

Problems: The pumpout station's toggle switch (on and off switch) is hanging from a group of wires near the bottom of the pumpout station. There are handwritten faded directions duct taped on the pumpout station, but there are no signs that clearly mark the pumpout station's location. On July 29th, the pumpout station was not operable.





Photos taken on 9/4/02. Left, valve lever handle broken. Right exposed electrical and on and off switch hanging from pumpout. Below left, photo of directions, and duct taped maintenance contact.

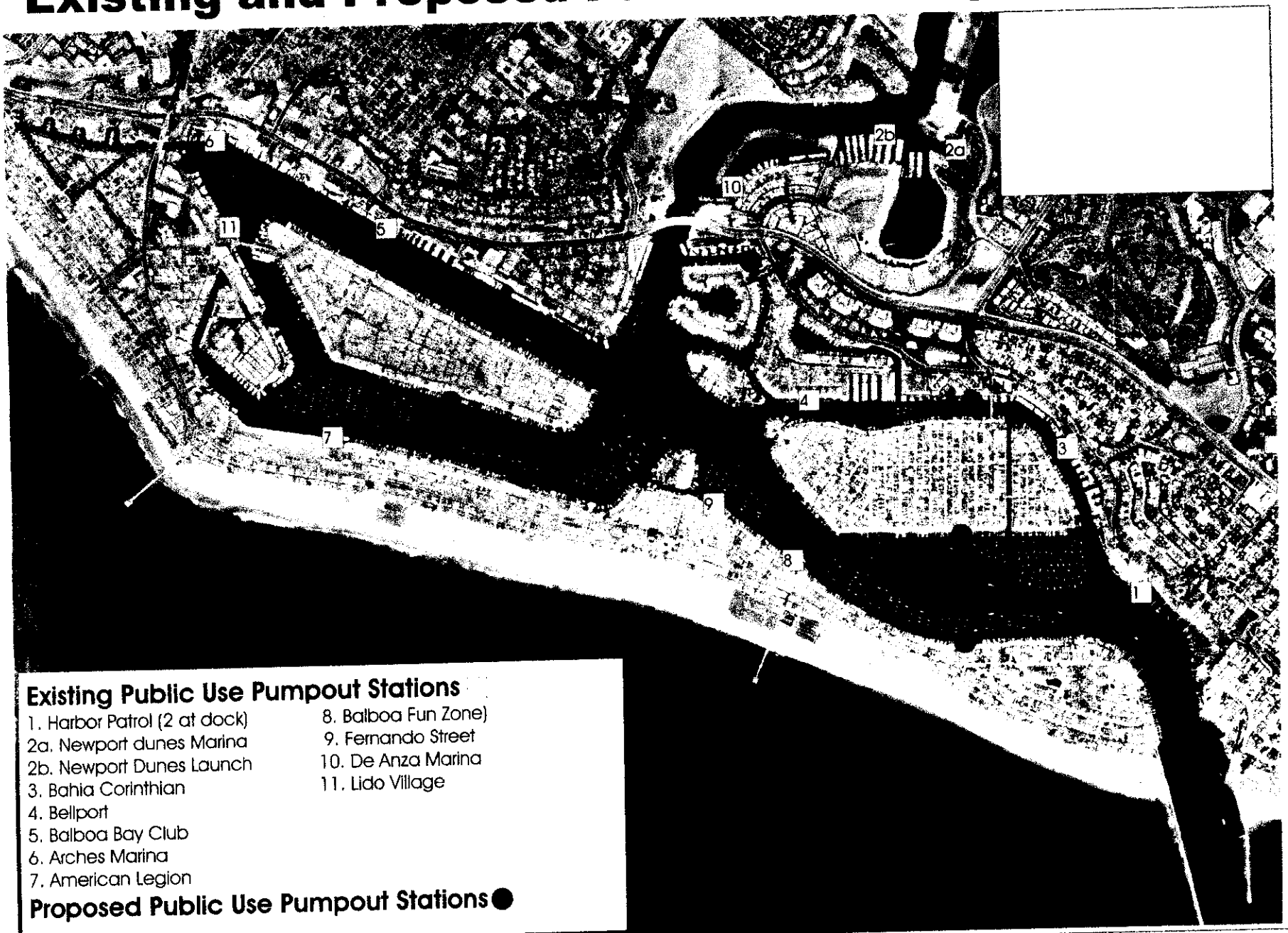


Bacteria test The samples passed the single day Total Coliform standard. *E.coli* exceeded the EPA standard on one date.

Recommendations: A new on and off switch needs to be installed in the pumpout station, new directions need to be posted on the pumpout, and a new valve handle needs to be replaced for proper usage.

Newport Harbor

Existing and Proposed Public Use Pumpout Stations

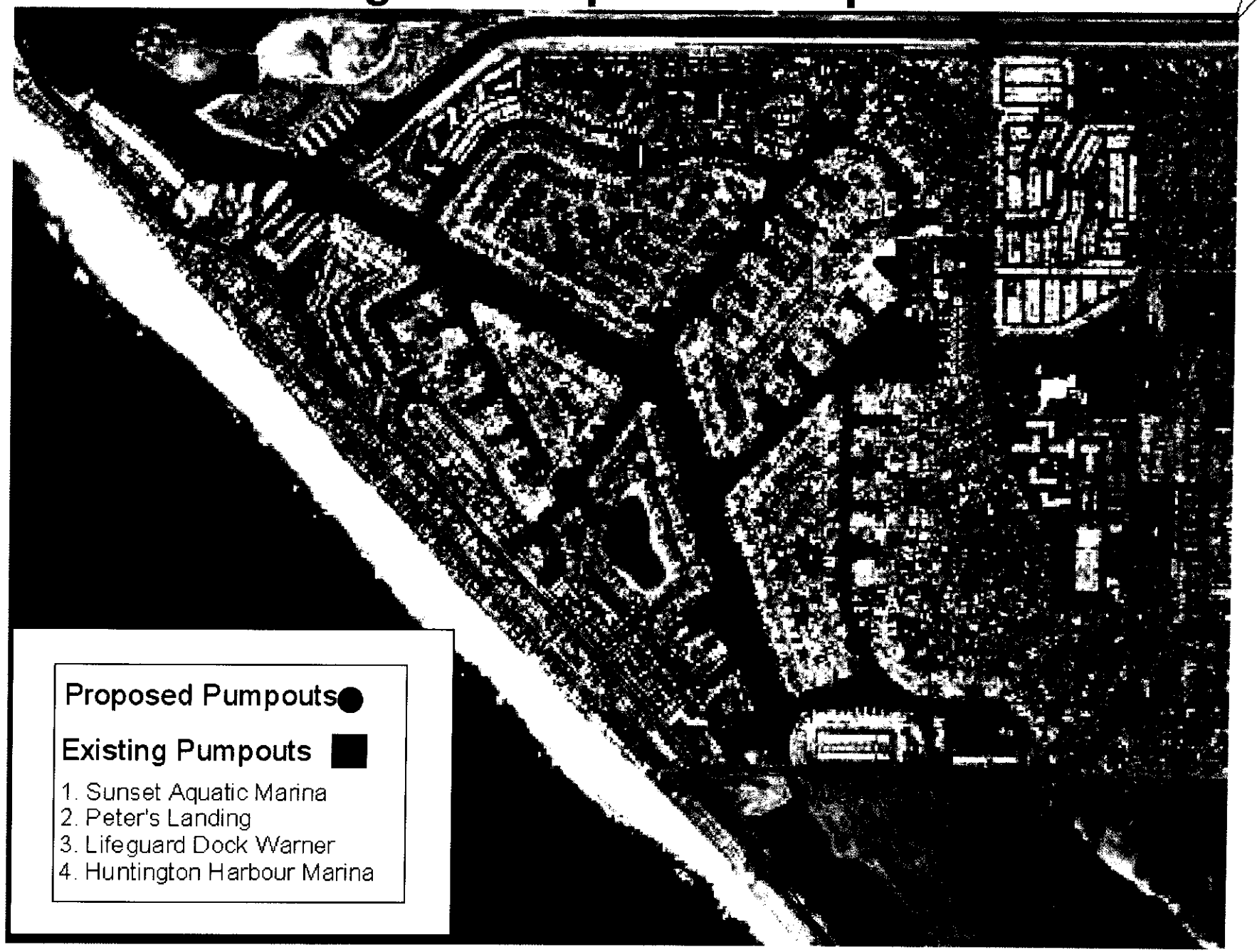


Existing Public Use Pumpout Stations

1. Harbor Patrol (2 at dock)
2a. Newport dunes Marina
2b. Newport Dunes Launch
3. Bahia Corinthian
4. Bellport
5. Balboa Bay Club
6. Arches Marina
7. American Legion
8. Balboa Fun Zone)
9. Fernando Street
10. De Anza Marina
11. Lido Village

Proposed Public Use Pumpout Stations ●

Huntington Harbour
Existing and Proposed Pumpout Sites



J Medlen 4-23-03 OCCK Prepared for SARWQCB